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1979  
ANNUAL REPORT  
OF THE  
SUPERINTENDENT  
YELLOWSTONE NATIONAL PARK

John A. Townsley

Date: 2/26/1980

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## CONTENTS

### PAGE

#### I. ADMINISTRATION

A. Personnel . . . . .	1-2
B. Awards . . . . .	2
C. Labor-Management Relations . . . . .	2
D. Equal Employment Opportunity . . . . .	3
E. Budget and Finance . . . . .	3-4
F. Concessions	
1. Concessions Management . . . . .	4-5
2. Concessioners . . . . .	5

#### II. INTERPRETATION AND VISITOR SERVICES

A. General Interpretation . . . . .	6-7
B. District Interpretive Activities . . . . .	7-17
Big Hole National Battlefield . . . . .	17
Yellowstone Library and Museum Association . . . . .	17-18

#### III. RESOURCE MANAGEMENT AND VISITOR PROTECTION

A. Law Enforcement . . . . .	19
B. Regulations . . . . .	19
C. Tort Claims . . . . .	19
D. Weather Conditions . . . . .	19
E. Fish and Wildlife Management	
1. U.S. Fish and Wildlife Service Technical Assistance Project . . . . .	20-21
2. Wildlife Management . . . . .	21-22
F. Wilderness and Backcountry Management . . . . .	22
G. Park Visitation . . . . .	22-23
H. Entrance and User Fee Collections . . . . .	23
I. Special Use Permits . . . . .	23
J. Central Communications Center Records Summary . . . . .	24
K. Fire Management	
1. Structural Fires . . . . .	24
2. Wildland Fires . . . . .	24-26
3. Helicopter Operations . . . . .	26-27
L. Forestry Program	
1. Soil and Moisture Conservation . . . . .	27
2. Insect and Disease Detection . . . . .	27
3. Tree Hazard Identification and Removal . . . . .	28
M. Research Accomplished . . . . .	29-30











#### IV. MAINTENANCE

A. Buildings. . . . .	31
B. Utilities. . . . .	31
C. Roads and Trails . . . . .	31-33
D. Energy Conservation. . . . .	33
E. Construction . . . . .	33-34

#### V. OTHER

A. Special Events and Activities	
1. Tri-State Travel Forum . . . . .	35
2. Advisory Board Meeting . . . . .	35
3. Park Colloquium. . . . .	35-36
4. Museum Dedication. . . . .	36
5. Wild Trout Symposium . . . . .	36
B. Media Relations and Public Affairs . . . . .	36-37
C. Safety . . . . .	37-38
D. Auxiliary Programs	
1. Young Adult Conservation Corps . . . . .	39-40
2. Volunteers-in-Parks. . . . .	40
3. Youth Conservation Corps . . . . .	40-41
4. A Christian Ministry . . . . .	41-42
E. Status of Planning	
1. Old Faithful Area and Lake Area Development Plans. . . . .	42
2. Grant Village Area Development Plans . . . . .	42
3. Telephone Service. . . . .	42-43
4. Concession Facility Rehabilitation . . . . .	43
F. Annual Objectives. . . . .	43









## SUPERINTENDENT'S ANNUAL REPORT - YELLOWSTONE NATIONAL PARK - 1979

### I. ADMINISTRATION

- A. Personnel: The workforce in the Personnel Office remained very stable during 1979. Mrs. Judith McGinnis transferred to the office in March 1979, as a Clerk-Typist, GS-3, from the Ranger Division. John Squire, from the Marine Supply Center in Parston, California, transferred to us in August 1979, and assumed the Personnel Management Specialist, GS-9, position.

The Personnel Office was moved to larger quarters in 1979, which greatly improved the physical layout and operation. Lack of adequate space for conducting rating panels continues to be a problem, however.

The Ranger Division was reorganized in 1979 with two new districts being created; Canyon and Old Faithful.

The turnover rate in Yellowstone was up in 1979 to 19.5%. This compares with 16% in 1978. This has had several effects on personnel management in the park. First, with the freeze on permanent full-time positions, and for a time, less than full-time positions, our overall staffing level has been reduced. Secondly, the staffing workload in the Personnel Office has continued at a higher than normal level with 106 announcements being issued.

Staffing: A Special Examining Unit (SEU) was established in 1979. This unit greatly increased the number and quality of candidates for wage grade jobs in the park. The SEU has been expanded to cover both seasonal and permanent clerical positions. It is felt that this will greatly relieve some of the problems we have experienced with clerical recruitment. Forty-five people were selected through the SEU in 1979; two of which were women.

Another noticeable change in our staffing program has occurred in the area of public contact. With the advent of the SEU, our number of in-person and telephone contacts has increased significantly. Correspondence is being received at an average rate of 30 inquiries per day with some days amounting to almost 100. This trend is expected to continue and even increase.

Worker's Compensation: One hundred and thirty-six (136) Worker's Compensation cases were processed during 1979 as compared to one hundred and twelve (112) in 1978, and forty-three (43) in 1977.









This represents a 21% increase over 1978, and a 216% increase over 1977. The program continues to require at least one-half of a work year to administer.

Training: During 1979, 314 training courses were attended. Three supervisory training courses were presented on-site. As a result of this effort, only three supervisors remain short of the eighty hours of required training. We will continue, however, to sharpen and expand supervisory skills with additional training.

Classification: The last half of 1979 was very active in the classification area with the hiring of John Squire. This area had not received any continuing attention for over a year and a half, therefore it required Mr. Squire's full-time attention. As a result of his efforts, 1,094 classification actions were taken with 257 different position types being evaluated. Twenty of those actions required Regional Personnel Office action. Twelve actual desk audits were conducted. One letter was issued downgrading a district ranger position due to a classification error. Several more are anticipated in 1980.

The Administration Division was the object of an extensive classification review in late 1979. The review concluded that only two positions were overgraded, and three undergraded. The final action on this review is pending in the Regional Personnel Office.

- B. Awards: Four employees received Special Achievement Awards totaling \$2,700; several more are pending action in the Regional Office. The recipients were:

Superintendent Townsley	\$2,000
Raymond Fenio	\$ 200
John Scott	\$ 200
Douglas Houston	\$ 300

Linda Miller received a Quality Increase Award. Ten length-of-service Awards were presented during the year, as well as nine Suggestion Awards.

- C. Labor-Management Relations: A close working relationship has existed between Union and Management. This year Maintenance supervisors and several management officials attended a training course conducted by Karl Hanna, Chief, Branch of Labor Relations, M&O. The course was conducted at Grand Teton, May 1-17, 1979. This was the first labor relations training for most of the supervisors.













- \* Quarters Maintenance and Operation (financed from rent paid by employees) \$ 546,800
- \* Sanitation Collection and Disposal (solid waste). This is portion of total expense paid by concessioners and quarters. \$ 118,800
- \* Water and Sewer Expense. Portion paid by concessioners and quarters. \$ 113,200

\*Not financed from appropriated funds. The Government's share of the cost of operation of utilities is included in Maintenance of Buildings, Utilities and Grounds.

#### F. Concessions:

1. Concessions Management: Mr. John Burchill was named Chief of Concessions Management in Yellowstone during the month of March. Mr. Curt Edlund joined the Concessions Management staff in April as Civil Engineer and will be involved in rehabilitation of all concession facilities in the park. A career-conditional Sanitarian position was added to the division and is currently filled by Mr. Oliver D. Cook.

The National Park Service purchased all of the Yellowstone Park Company assets from General Host Corporation. The Yellowstone Park Company contract terminated October 31, 1979. An inventory of all Yellowstone Park Company property (excluding consumables) purchased by the United States Government and assigned to TWA Services, Incorporated, was completed by the National Park Service.

TWA Services, Inc. was granted a two-year interim contract authorizing them to conduct all concession activities and services previously covered by the Yellowstone Park Company contract. Mr. George Toney is Senior Vice President, TWA Services, Incorporated, Yellowstone Park Division.

An intensive fire/safety improvement program in the major hotels throughout the park is underway. Under the two-year TWA Services contract, a major rehabilitation will be completed in facilities throughout the park.

A Development Concept Plan for Grant Village was completed by the Denver Service Center.









A study is being completed by Laventhol and Horwath, a professional accounting firm in California, in order to make recommendations to the National Park Service on various aspects of future long-term concession contract(s) in Yellowstone, authorizing overnight accommodations, food service, merchandising, horse and marina operations and transportation services.

The Government Accounting Office conducted a study during the 1979 summer on Concessions Management in Yellowstone.

2. Concessioners: The Yellowstone Park Company reported 428,709 overnight guests during the 1979 summer season; this compared to 682,796 in 1978. The Company served 1,425,125 meals in 1979 compared to 1,559,381 in 1978.

Hamilton Stores, Inc., reported that sales were down 6.79% during the 1979 season from 1978.

Yellowstone Park Service Stations sold 3,586,167 gallons of gasoline in 1979 compared to 4,044,945 gallons in 1978, for a decrease in sales of 11.3%.

Health Systems Research Institute, the contractor for medical services in Yellowstone, changed their name to Comprehensive Health Systems. Their new address is 2400 West 7800 South, Suite 202, West Jordan, Utah 84064.









## II. INTERPRETATION AND VISITOR SERVICES

- A. General Interpretation: The quality and output of interpretation remained at a high level for the year 1979, supported by a wide variety of interpretive services offered to the visitor. The division stabilized organizationally with the elimination of the Old Faithful Sub-District Naturalist position and realignment of responsibilities of the West District Naturalist. All permanent positions were filled for most of the year, but some changes in personnel occurred. The seasonal staff of 11 persons consisted of highly qualified and professional people, but was below the optimum compliment of seasonal employees.

The staff was composed of the following:

### 1. Supervisory - Permanent

- a. Alan Mebane - Chief
- b. John Tyers - Assistant Chief
- c. Joe Halladay - West District
- d. Frank Walker - South District
- e. Tim Manns - Historian/North District

### 2. Non-supervisory - Permanent and Subject-to-furlough

- a. Ron Thoreson - Intake Trainee
- b. Phyllis Siglin - Secretary (STF)
- c. Linda Green - Curator (STF)
- d. Bill Lewis - Oral Communication Counselor (STF)

### 3. Supervisory Seasonals

- a. Ted Parkinson (STF) - South District
- b. Bill Baker (STF) - Tower
- c. Dick Townsend (STF) - Tower
- d. John Luitman - Mammoth
- e. Cawood Gilbert - Grant Village
- f. Harlan Kredit - Fishing Bridge
- g. Noel Ary - Canyon
- h. Tom Pittenger - Norris

4. Non-supervisory Seasonals: A total of 42 with 13 new people in 1979, including one Co-op Education Student and three Student Conservation Aids.

The permanent staff was increased with the addition of the Intake-Trainee promotion. The former Historian Tony Dean accepted a







promotion and transfer from Yellowstone to Albright Training Center, effective January 1979. Sub-District Naturalist Margaret Short filled the position on a temporary promotion basis until August when she resigned and the Historian position was filled by Tim Manns who transferred from Grand Canyon.

One of the major accomplishments of the year was the completion of a contract renovation of Building No. 1, the Mammoth Visitor Center. This project consisted of completely gutting the interior of the building and doing a renovation of it to provide a new exhibit area, offices, auditorium, library, and archive/museum collection storage. The theme for this facility emphasizes human history of the park and this was treated with all new exhibit work. On September 19, 1979, a ceremony was held to dedicate the building as the new Horace M. Albright Visitor Center.

The Yellowstone Institute had another successful year. One hundred and fifty-one students enrolled for 16 courses. Of this total, 22 students cancelled out and 3 of the courses were cancelled. The final paid enrollment was 129. The bunkhouse at Lamar Ranger Station was used to house seminar students and served as a focal point for beginning class activities. This facility proved to be a satisfactory center in which to operate the Institute.

Considerable effort was made by the Chief Naturalist this year as Geothermal Coordinator for the park. National attention was drawn to the proposal to develop potential geothermal energy in Targhee National Forest adjacent to Yellowstone National Park. Assistance was given to the U.S. Forest Service to complete their final Environmental Impact Study with sufficient consideration for park values and resources. In July, the Chief Naturalist joined the Superintendent and Regional Director in testifying before a Senate Subcommittee in Washington. A final decision on the proposal has not yet been reached by the Secretaries of Agriculture and Interior.

The division notes that, although park visitation was down 28% in 1979, attendance at most interpretive activities declined only slightly, or increased in some cases. Our conclusion is that the smaller number of visitors stayed longer, attended more activities, and became more involved with the park. This may well be the trend of the future as travel gets more expensive.

## B. District Interpretive Activities:

Mammoth: Interpretive operations and staff were headquartered at the North District office building (the "Pagoda") during the first









half of the year. Audiovisual presentations were suspended due to lack of space, but all other visitor services were provided.

Interpretive functions were moved outside at the beginning of the summer season in order to better serve the visitor. The Madison exhibit shelter was set up on the parade ground across the street from the museum, and modified to accommodate an information desk and the YLMA sales facility. A wood and canvas auditorium was constructed beside the information hut and the new film The Challenge of Yellowstone was shown throughout the day. The information shelter also served as the starting point for many of the walks and programs offered during the summer. Backcountry permits and information, car stickers and registration, boating permits, etc., were issued from the Ranger Station in the Pagoda.

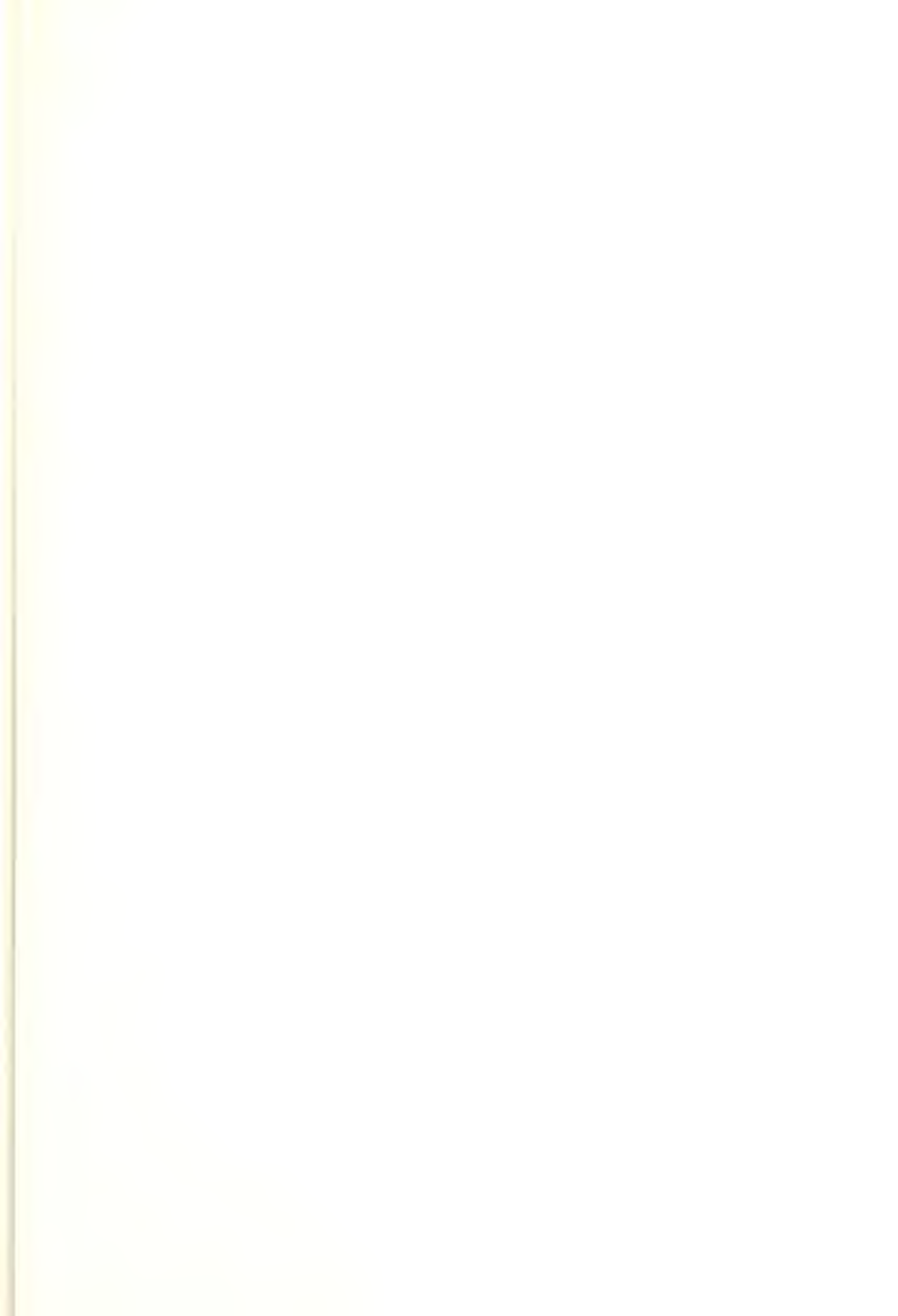
The Horace M. Albright Visitor Center, formerly the Mammoth Museum, was dedicated on September 19, 1979, after many delays in the building's renovation. Curator Linda Young Green was very actively involved in assisting the Harpers Ferry team with exhibit installation. Preparations for the dedication ceremonies were coordinated by Chief Naturalist Al Mebane with participation by members of the park and YLMA staff. The principal speaker was David Hales, Deputy Assistant Secretary to the Interior. Attendance was estimated at 400 to 500, with many individuals connected with Yellowstone's history present. However, Mr. Albright was unable to attend.

In the months following the dedication, the library, study collection, archives, and North District interpretive offices were moved into their new quarters from various temporary locations. The information hut and temporary auditorium were disassembled in the days following the dedication. Late in the year, the Chief Naturalist, Curator, and Historian began planning for the disposition of historical objects and records obtained in the Government purchase of the Yellowstone Park Company.

Tony Dean left his post as North District Naturalist/Historian in January to become part of the staff at the Albright Training Center. Margaret Short came from Old Faithful to be Acting North District Naturalist/Historian in May, and Tim Hanns (formerly of Grand Canyon) was selected to fill the position in July. He arrived in mid-August and was immediately engulfed in the planning and preparations for the dedication. Linda Green continued as Curator.

The summer seasonal staff decreased in size again this year. Five seasonal naturalists, including one supervisor, were supplemented with one SCA, one Co-op student, and one YLMA sales clerk. Coverage in the Albright Visitor Center after October 1, was provided by one seasonal naturalist, a small amount of VIP assistance and YACC's.









May continued to be a month of heavy involvement with school groups in the park. Approximately 15 groups of various ages were taken on special nature walks, escorted on tours of the park, and provided with evening programs by the Mammoth staff.

Participation in summer activities was high in spite of the overall decline in park visitation. Terrace nature walks were offered in the morning, afternoon, and evening. A total of 3,658 visitors attended these walks for an average of 29 visitors per walk - up 21% from 1978. The Fort Yellowstone walk, a Living History activity, attracted 955 people for an average of 40 visitors per walk - up 16% from 1978. Evening programs (informal campfire talks and slide presentations) were offered at the Mammoth Campground, Indian Creek Campground, and the Mammoth Motor Inn. Fewer programs were offered this year due to the decrease in staff. A total of 15,809 visitors attended for an average of 92 per program - down 11% from the previous year. Audiovisual presentations weren't offered until the middle of the year, when the temporary theater was constructed. As might be expected, total attendance was down almost by half (12,107), but average attendance at each presentation was up 43% to 20 visitors.

The largest decline was in visitor center attendance. The total for 1978 was 157,180, and the total for 1979 was 57,311, down almost 64%. There were many obvious reasons for the decline. Visitation was down in the park as a whole, due to the gasoline situation. The information station may not have attracted all potential visitors, especially on cold and stormy days. However, the year ended on a happier note as attendance increased during the holidays.

The many naturally-caused fires of the 1979 season were of great interest to park visitors, and were the focus of the interpretive effort during roving time and at the information hut. Assistant North District Naturalist John Whitman was sent to Cody, Wyoming, during the height of the fires to provide up-to-date information and explain the park's "let burn" policy for naturally-caused fires. Special tapes were recorded for broadcast on the 1606 transmitters to interpret the fires "on site".

Locally, the "new spring", first noticed in June of 1978, continued its spectacular development. Another spring located south of the Narrow Gauge fissure ridge was active and quite attractive, though hidden from view on the Upper Terrace Drive. A report detailing changes on the Mammoth Terraces was prepared by Joanne Neutzel.







Norris: The interpretive staff at Norris, one of the park's focal points of activity, declined again this year, reaching the inadequate size of three. Supervisor Tom Pittenger arrived on May 22, and Fred Hirschmann, the last of the three to leave, departed on October 19.

Attendance at interpretive activities was about the same as in the previous year. A total of 445 walks was given to 14,628 visitors, up 28%. This probably resulted from the extended coverage at Norris, with conducted walks available into October. Hikes into Sylvan Springs, Artist Paint Pots, and Virginia Meadows were offered in addition to the geyser basin walks into Back Basin and Porcelain Basin. The night walks continued to be the most popular activity. A total of 1,240 visitors participated on the 15 walks offered, for an average of 83 per walk - up 77% from 1978. Ninety-five campfire programs were given to 8,375 people for an average of 88 per program, down slightly from the previous year.

Visitors continued to enjoy Africa and Echinus Geysers, although both of these features showed signs of changing behavior. Steamboat Geyser had one major eruption on June 18. Observers of this and the August 1978 eruption believed this one to be less powerful. A detailed report of the event appears in the Norris Annual Report.

Tower: Bill Baker was the sole seasonal naturalist in the Tower area again this year. From June 14 through September 3, Bill presented 47 evening programs to 3,041 visitors, for an average of 65; led 22 hikes to the Fossil Forests on Specimen Ridge for 423 visitors (19 per walk); and led 24 hikes to Lost Lake for 327 visitors (14 per walk). Average attendance on the Specimen Ridge hike was up 5% from the previous year, and though fewer campfire programs were offered in 1979, average attendance was up by approximately 20%.

Bill provided special activities for three groups and performed roving interpretation at sites along the Tower to Mt. Washburn road. He was also actively involved in on-site interpretation during the Mt. Washburn fire.

West Yellowstone: Even though we expected more snowmobiler traffic through the Travel and Information Center at West Yellowstone, it definitely was a successful venture. We received positive support from the Chamber of Commerce, the independent business people, and the town residents. The number of visitors coming in for information grew as the season progressed in response to a growing awareness, and support by local residents. It was noted that a high percentage of the snowmobilers who stay overnight in West Yellowstone receive their information from the motel proprietors, or from the snowmobile rental establishments.









The automatic slide-tape programs were shown regularly throughout the day and evening. Several live talks were given in motels, upon request.

The season closed with the Center being staffed by one GG-3 park aid and one YACC girl. The Hebgen District of the Gallatin National Forest participated in the project by providing a seasonal employee to operate the Center two evenings per week. Relations with the Yellowstone Park Company personnel were excellent, resulting in a very good overall operation.

The National Park Service activities in the Center were terminated on March 18, following closure of the West Entrance to snowmobiling.

The National Park Service is providing informational services in the same facility for the 1979-80 winter season, again in cooperation with the park concessioner (TWA Services, Inc.). Two GG-4 park technicians have been hired to assist in the operation. The Center was opened to the public on December 16. One significant change this year is that the audio-visual room is not available for our use. U.S. Forest Service personnel will participate in the program again this year.

On December 12, National Park Service personnel met in West Yellowstone with the concessioner snowcoach and bus drivers for an orientation and training session.

A new effort was initiated in the West Yellowstone area during the summer in cooperation with the Chamber of Commerce. A GG-5 park technician was hired to work in the Chamber's information station located at the end of Madison Avenue, one block west of the park entrance. The duties of this position were to provide information for visitors as they entered the park and to offer evening programs at the campfire circle behind the information station. Although less busy than the visitor centers in the park, this was a very worthwhile service.

An exhibit presenting several of the natural features of Yellowstone Park was developed and displayed in the Chamber of Commerce railroad car exhibit facility, located beside the information station.

In June, the West District Naturalist spoke to a group of West Yellowstone summer employees in a training meeting held in the Convention Center under the sponsorship of the Chamber of Commerce. Additionally, the West District Naturalist and the West District seasonal naturalist participated in the training session conducted







by the U.S. Forest Service for seasonal visitor information service personnel. This included a tour of the Earthquake Area, and the Baker's Hole Campground, including the heron rookery nearby.

Madison Junction: The Madison Junction Warming Station was heavily used and appreciated by park visitors throughout the 1978-79 winter season. Several frostbite victims received aid and advice at this station. The number of frostbite victims was well above normal due to the extreme temperatures. The Naturalist Division shared a seasonal position with the Protection Division but all personnel participated equally in both the contact station duty and in road patrol. During the summer, the warming station building was moved to Mammoth for use as an information booth while the renovation of the Mammoth Museum was being completed.

The staff for the winter of 1978-79 consisted of Acting Sub-District Ranger Dunbar Susong, plus three seasonal rangers. The staff for the winter of 1979-80 will consist of permanent Sub-District Ranger Julia (Judi) Kunc1, plus two seasonal rangers.

Vandalism continues to be a problem at the Explorer's Museum due to its being unattended. Several photos and labels have been torn and marred, and one panel disappeared altogether.

Elk and bison frequent the grassy meadows in the Madison area the year around, providing a popular attraction for park visitors. Elk bugling is a highlight during the fall.

Old Faithful: The 1978-79 winter staff consisted of a GS-9 permanent sub-district naturalist, three GG-5 seasonal naturalists, and two YACC positions split between Maintenance and Interpretation. Naturalist conducted activities consisted basically of conducted walks on Geyser Hill each morning and afternoon, and an illustrated program in the visitor center auditorium each evening. The severe cold temperatures from mid-December through mid-February made this a notable year. Visitor center lobby temperatures often ranged in the forties with the warmer air hovering near the high ceiling.

In January, Sub-District Naturalist Margaret Short accepted a temporary assignment to Costa Rica to assist the park officials of that country with training their park managers, and in the establishment of various park operational programs. While still on that assignment, Miss Short gave formal notice of plans to return to school in the fall, and that she wished to resign from the National Park Service effective in mid-summer.









Upon her return to Yellowstone in mid-April, she was reassigned to the North District Naturalist position, which had been vacant since January, to assist with the final refurbishing of the Mammoth Museum, and to supervise the relocation of the archives and artifacts to their new storage area.

At this time, Intake Trainee Ron Thoreson was assigned to Old Faithful to supervise the daily operation, under the supervision of the West District Naturalist. Mr. Thoreson served in that capacity through October 31, the end of the season. It was administratively determined that the sub-district naturalist position would not be refilled. The West District Naturalist is now the direct supervisor of the daily operation.

The summer seasonal staff consisted of 11 GG-4 and 5 naturalists, and 1 Student Conservation Aid. This is a loss of one employee as compared to 1978. Many of the employees were returnees and worked together as a very efficient team. With careful planning of the duty schedule, it was possible to provide as many conducted activities as in 1978, and during the last half of the summer two additional programs were given per week.

Volunteer-in-Park personnel assisted with the children's programs, the historical slide program, and in thermal observations.

Training consisted of all-division general training and sub-district specific training at the beginning of the season, followed by program auditing, staff meetings, and personal counseling throughout the season.

The visitor center opened to the public on April 15 and remained open daily through October 31. Guided walks were started in late May and evening illustrated programs began on June 9. A number of separate programs were given to special groups, and several interviews were held with special park visitors. An interview was held with the Japanese editor of a Tokyo newspaper with a circulation of over three million. The editor of the largest newspaper in the Berlin, Germany area also conducted interviews with staff members.

A significant contribution was made in energy conservation during the summer through cancellation of all unnecessary trips and by using the small energy saving vehicle when giving the Madison campfire programs. This fall a great energy saving stride was made with the installation of an eight foot high temporary ceiling composed of two-inch thick styrofoam bats, in the visitor center lobby. The oil furnace was shut down and drained, and a wood burning stove installed in the lobby fireplace. To date this







arrangement has kept the lobby very comfortable. One sacrifice was that the auditorium was too large to heat from this source, and therefore has not been available for use. The evening slide programs are given in the lobby.

Other improvements in the district include the construction of new boardwalks at Fountain Paint Pots, Biscuit Basin, Black Sand Basin, and the Upper Geyser Basin. Particularly valuable is the widening of the boardwalk at Grand Geyser where large crowds often assemble to await the eruptions.

A new supply of Braille signs was acquired and the old ones were replaced at the beginning of the season.

The staff for the 1979-80 winter season consists of three GG-5 seasonal naturalists under the supervision of the West District Naturalist. The conducted activities include a morning and afternoon Geyser Hill walk daily, and an illustrated program each evening. On December 28, Beth Seery, student intern from Oregon State University, arrived to participate in the Old Faithful winter program, and to learn the overall park operation. Anticipation is high for an excellent winter season.

South District - General: Winter interpretation at Canyon as well as West Thumb continued to be emphasized and expanded successfully. Cawood Gilbert, a Canyon area naturalist, was selected to fill the vacant supervisor's position at Grant Village. The 1978-79 winter season and the 1979 summer season were both very successful. Even with 30% fewer visitors in the park, most of our interpretive programs held their previous attendance levels.

It was a chaotic year dealing with the district budget. There seemed to be a constant series of budget cuts for such things as absorbing the classified pay increase, part of the park's increased electrical bill and the purchase of new snowmobiles. We reduced both the Fishing Bridge staff and the Grant Village staff by one naturalist each, and opened all visitor centers one week later in the spring. Because of this, staff members had to offer much less than optimum interpretive services. There was a total of 23 seasonal naturalists in the district; 1 subject-to-furlough assistant district naturalist, 1 Student Conservation Aid, and 1 YACC member. Of five new interpreters hired, all were highly recommended for rehire in the 1980 season.

Out of 23 FY-79 district goals, 11 were 100% completed, 5 were 50% or more completed, and 7 were either dropped or very low in priority. Some of the major accomplishments included adding 1606 radio stations at Uncle Tom's and West Thumb Geyser Basin, revising all 1606









messages, installing a geology and natural fire exhibit in the Mt. Washburn Lookout, development of two new activities in each sub-district, reduction of split shifts by 50%, installation of new brochure boxes at Mud Volcano, and scheduling of three short communications workshops for the staff. With the increased thermal activity in the Mud Volcano area, the southern section of the boardwalk had to be completely removed and rerouted.

Canyon: After experimenting for two years, the winter program at Canyon is now standing on its own. In the 1978-79 season, 51 guided Canyon Rim snowmobile tours were offered to 540 visitors, and 7,321 visitors entered the Canyon Warming Hut as compared to 5,054 the year before, for an increase of 31%.

For the 1979-80 season, a completely new warming hut was constructed by the park carpenters (Jim Batzloff). It is a 14 x 45 foot mobile visitor contact station with wood stove, carpeting, wood paneled walls, full insulation, interpretive exhibits, benches and a TWA Services, Inc., snack bar. The exterior is finished in rough texture paneling and a sloped cedar shake roof. Response to this new facility has been very positive.

Mike Pflaum, Canyon winter naturalist, offers 1:00 p.m. guided tours and provides roving interpretive services around the Canyon Rims, Hayden Valley, up to the Caldera Overlook, and in the Norris Geyser Basin. He is assisted this winter by Linda Paganelli, winter student intern from Oregon State University. Food service is provided by TWA Services, Inc., and gasoline by Yellowstone Park Service Stations.

The Canyon Visitor Center was open from May 18 until October 23, 1979. Visitation in the visitor center was 453,321, as compared to 460,289 last year. This was a decrease of 6,968, or 2% from the previous year. With over 5,000 people per day in July and August, there is a tremendous demand on each interpreter. Unfortunately, due to a lack of regular National Park Service personnel, we have had to enlist assistance from 1 Student Conservation Aid (SCA), 1 Young Adult Conservation Corps enrollee (YACC), and approximately 15 Volunteers-in-Parks (VIP's). A minimum of two more summer interpreters is needed to meet these heavy demands.

An average of 30 visitors went on one of the 359 Canyon Rim Walks offered, up 1,066 from last year. The all-day hike up Mt. Washburn drew an average of 32 for each of the 27 hikes offered. Over 26,000 visitors attended the evening slide programs at the Canyon amphitheater.







The Canyon Visitor Center exhibit room is receiving close scrutiny with possible changes in the near future with financial assistance from the Yellowstone Library and Museum Association. The focus for this visitor center is geology; however, the present exhibits are over 20 years old and inaccurate. A relief model is envisioned to help tell the geological story of Yellow tone with emphasis on the Caldera story. A draft script for this new program was written this fall by Guida Veronda, Canyon naturalist.

Noel Ary, Canyon Sub-District Naturalist, had an unusual season with all of the regular staff having worked at Canyon before. The only new person was Student Conservation Aid Nancy Fox. YACC'er Beth Gibbs had spent the winter at Canyon and certainly added to the program. Overall, with an excellent veteran staff, Canyon experienced another very good year.

West Thumb: There has been a need to provide some type of a warming station in the West Thumb/Grant Village area. With the able assistance of Helmer Jensen and his Grant Village maintenance crew, the old abandoned West Thumb Ranger Station quarters was converted into a warming hut in the fall. Not having the funds to hire a regular naturalist, an excellent YACC member, Robert "Marty" Craybill, was hired to man the station. Exhibits, maps, a wood stove, benches etc., were installed and the facility was opened to the public on December 15, 1979. "Marty" has offered special tours of the West Thumb Basin and so far the station has been very popular with the snowcoach passengers and snowmobilers.

The South District Naturalist spent approximately 50% of his time in the district in the winter season. Winter use in the Canyon area is steadily increasing. The experimental warming station at West Thumb has been a success thus far.

Lake-Fishing Bridge: The Fishing Bridge Visitor Center was open daily from May 26 until September 22, 1979, with a total of 116,750 visitors, a decrease of 28,990, or 20% from the previous year. The traditional and ever popular guided walks, such as Pelican Creek and Storm Point continue to draw thousands of visitors during the summer. Over 62,000 visitors attended the evening campfire programs presented at Bridge Bay and Fishing Bridge. Due to the reduction in personnel, programs were not presented in the Lake Hotel this year. The Fishing Bridge Visitor Center was repainted inside and all of the museum specimens were rehabilitated in September.

Several new interpretive programs were tried at Fishing Bridge this year. The two most popular were Pots and Ponds (average 30









visitors and presented 18 times), and Polany and Butterflies (average 29 visitors and presented 7 times). The 7:00 p.m. evening family programs continue to be very well attended and successful.

Additional special tours were presented at Mud Volcano this year. With all the new activity this was a very popular spot for interpreting "change" in Yellowstone's geological landscape.

Personnel included Sub-District Naturalist Harlan Kredit, six returnees, and two new naturalists (Lisa Eckert and Sue Denver). Overall, Fishing Bridge experienced a very busy and successful summer.

Grant Village: The Grant Village Visitor Center opened June 1 and closed September 22, 1979, with a total of 52,070 visitors. A regular schedule of conducted walks and roving assignments was maintained in the West Thumb Basin, and evening programs were presented nightly at the Grant Village amphitheater. Due to the reduction in personnel, evening programs were presented only twice a week at the Lewis Lake campfire circle.

Several new programs were tried at Grant Village such as the Lunch Over the Lake Hike and the Treasure Hunt. The Riddle Lake Wilderness Hike was reinstituted twice a week in July and August. This was a much smoother year at Grant Village under the new tendership of Sub-District Naturalist Cawood Gilbert. With all experienced naturalists (four of six with Grant Village experience), things went much smoother this year.

Big Hole National Battlefield: Yellowstone continues to provide staff and technical assistance to Big Hole National Battlefield with major maintenance projects, interpretation, resources evaluation, and planning.

The historian position at Big Hole has been changed to park technician, and is currently filled with a one year temporary employee. The position devotes 60% of its time to interpretation, and 40% to Administration.

Yellowstone Library and Museum Association: The Association had a gross income of approximately \$275,000, which represents a 9% decrease from 1978. Two factors account for this; travel to the park was down 28%, due to the cost and uncertainties of fuel; and sales of books were also down due to the Mammoth Visitor Center being closed all summer for remodeling. Final figures on donations







to the Service were not available at the time of this report due to the annual audit being delayed. Donations included free publications, operation and development of the research library, design and construction of additional winter exhibits and matching funds to Grant-Kohrs for a major oral history project.

The Yellowstone Institute, described earlier in this report, was the recipient of a \$10,000 grant from the Department of Energy for offering courses relating to energy and conservation. The Association, therefore, did not have a net loss on the Institute this year.

Our Board member, John Amerman, resigned when he retired as President of the Yellowstone Park Company. Two new members were elected during the year, Mrs. Alice Fryslye and Mr. Lloyd Schermer.

The Board passed a resolution urging the Service to remodel the exhibit room of the Canyon Visitor Center, and offered to assist financially.









### III. RESOURCE MANAGEMENT AND VISITOR PROTECTION

- A. Law Enforcement: The Law Enforcement Office was reorganized, going through the summer months with a staff of one permanent and two seasonal rangers. The vacancy in the permanent supervisory position was filled on November 18.

Hearings before the U.S. Magistrate increased by one-third to 89, compared to 61 in 1978. Violation Notices allowing forfeiture of collateral dropped from 1,248 in 1978, to 1,050 in 1979.

Two forty-hour law enforcement refresher training courses were held in the park, and a number of rangers attended various courses offered at the Federal Law Enforcement Training Center in Georgia. Training at this facility is available at no expense to Yellowstone National Park.

Work was started on a manual of Law Enforcement Directives, with the first three directives being written during December. This manual is intended to present in some detail the enforcement policies of this park.

Motor vehicle accident investigations decreased from 500 in 1978 to 395 in 1979.

- B. Regulations: A proposal was submitted describing changes to the fishing regulations. Two proposals were submitted for the purpose of controlling public nudity and the carrying of firearms in the backcountry of the park.
- C. Tort Claims: During 1979 there were 24 claims filed. The Hamilton Stores submitted a claim for \$73,096.16 for water damage in their Canyon facility. Six claims were filed for damage caused during a spray-painting operation in the headquarters area. The Henretig and Ford claims are still pending.
- D. Weather Conditions: January had below normal temperatures. January, February and March of 1979 had normal snowpack. The spring runoff of 1979 was normal; starting in May, continuing through June and tapering off in July. Yellowstone had one of the driest springs (April and May) since 1880. The above normal rainfall in July and August accounted for most of the summer's precipitation. The 1979-80 winter will be remembered for its below average amount of snowfall, causing the poorest snow conditions in 16 years.







## E. Fish and Wildlife Management

1. United States Fish and Wildlife Service Technical Assistance Project: The Yellowstone Fishery was monitored for the seventh year by the Volunteer Fisherman Report (VFR) cards in conjunction with park fishing permits. During 1979, 195,100 fishing permits were issued, and fishermen fished over 260,000 fisherman-days in the park. These figures represent about an 11 percent reduction over 1978, and probably were caused by a 30 percent reduction in overall park visitors. The non-fee fishing permit system provides valuable management information for regulation of the aquatic systems of the park. Yellowstone Lake cutthroat spawning runs were enumerated on Pelican, Clear and Cub Creeks through the operation of weirs and traps. The non-indigenous sucker spawning run on Pelican Creek was destroyed for the fourth consecutive year, and the annual gillnetting operation on Yellowstone Lake was accomplished. The purpose of the trapping and gillnetting operation is to evaluate effects of sport fishing, and especially the 13-inch maximum size regulation. The 1979 data indicates that the average size of trout in the population is still increasing. This is a major goal of the regulation.

A cooperative experimental project with the Wyoming Game and Fish Commission was accomplished in conjunction with the fall gillnetting operation on Yellowstone Lake. They did not make sufficient hauls for a population estimate, but the data gathered indicated 18 pounds of cutthroat per acre. Their method is still in the development stage for making population estimates.

Preliminary baseline limnological data was collected monthly from Lewis, Shoshone, Heart and Yellowstone Lakes due to their position in the "let burn" or wilderness zone. These data will be used in future studies concerning the effects of fire on the aquatic system. There was a fire in the Heart Lake drainage in late summer which burned about 4,900 acres. The limnological data collections were increased on Heart Lake and a sampling station was set up on Beaver Creek, a tributary to Heart Lake. The data will be used to study the effects of fires on the aquatic system.

The native and threatened species restoration program continued with stream surveys on Maple Creek, Slough Creek and the catch-and-release sections of the Lewis River. The cooperative program with the National Park Service, Fish and Wildlife, and Wyoming Game and Fish Commission, started in 1977, and continued in 1978 and 1979. Approximately 500 adult and subadult Sedge Creek cutthroat trout were collected and flown to a previously fishless section of the Yellowstone River in the Teton Wilderness Area south of Yellowstone Park.









The backcountry lake survey program, begun in the early 1960's, completed 8 lakes in 1979 and water samples on 15 other lakes.

Fish samples were taken from about 20 populations in the park for genetic studies on different strains of cutthroat in cooperation with a study being conducted by the University of California at Davis. One graduate student studying longnose suckers worked in-house with the project for the second field season.

A 311-page Annual Technical Report for the aquatic and fishery management program in Yellowstone Park was the result of data collected during the 1977 calendar year, and encompasses an in-depth view of all facets of the park program.

2. Wildlife Management: The early special hunts were held by the State of Montana, but were limited and did not extend into areas near the park. In the past, the special hunts had been held adjacent to the park's north boundary to aid in elk management. There has been a change and the hunts following the regular season of 1979 are being held for hunter recreation. The regular hunting season animal harvest surveys for Montana are not complete at this time, but it is estimated that the number of animals taken was down due to unusual weather conditions.

There were 3 grizzlies, 11 unknown and 13 black bears observed in developed areas in 1979. Backcountry observations were 346 grizzlies, 84 unknown, and 273 black bears. There was only one management action in 1979. Radio-collared bear (#42) was trapped and transplanted from the Old Faithful area to Parker Peak in the northeast area of the park. The Interagency Grizzly Bear Study Team had one accidental overdose on a radio-collared bear (#6), a female grizzly in the southern area of the park near Barlow Peak. The bear, after being tranquilized, was found to be in poor shape, possibly due to injuries received from an encounter outside the park with a steel animal trap.

There were four reported incidents directly involving persons in 1979. One confrontation, a bluff charge with an unknown species of bear, two backcountry injuries by grizzlies and one unknown species of bear. On May 22, 1979, two hikers hiking in the Tower Falls area were attacked by a grizzly with cubs. On June 23, there was a report from a visitor that he had seen a man in the backcountry who said he had been attacked by a bear, in which the species was unknown. The injured man showed the visitor where the bear had bitten him on the waist and clawed him on the shoulder. The incident was reported as occurring in the Shoshone Lake area near Moose Creek. A girl was maulled while hiking on the Howard Eaton Trail between Canyon and Tower Falls on September 26 by a grizzly with cubs.







The 1979 spring movement of bison was not the problem it had been in 1978. A helicopter was used March 14 through 19 to herd from the air, and park personnel were used to herd animals on foot. A barricade was erected on the Yellowstone River trail at a point where the animals could not pass above or below the trail. Approximately 100 animals began the movement downstream, but were successfully driven back with initial attempts and caused no more problems for the season. During the fall of 1979, one bison moved out of the park from the West District area into the Hebgen Lake area near Rainbow Point.

- F. Wilderness and Backcountry Management: Total visitor use in Yellowstone was down approximately 29%, and backcountry overnight use was down 4% compared to 1978 figures. The percentage of total visitor use to backcountry overnight use for 1979 was up from 1978. In 1978, 2% of the total visitor use was for overnight backcountry use, compared to 2.7% in 1979.

Several large fires, naturally caused and let burn, were responsible for the closure of the Heart Lake area and the Bighorn Pass/Fawn Pass area on the west side of the park for extended periods of time to backcountry use.

- G. Park Visitation: The park was open for public travel on the traditional May 1 opening date; however, because of the need to have the roads plowed earlier for administrative purposes and it being the "Year of the Visitor", the entrances were open prior to May 1. The Beartooth Highway was open for travel by May 19.

Road closures for the winter began on October 19 when the Beartooth Highway and operation of the Northeast Entrance were closed for the season. The East, South, and West Entrances were closed on November 5, after the first snow storm. The roads were again opened to vehicle traffic in November and December due to the lack of snow for snowmobiles. Official opening for snowmobiles was on December 15; however, since the west side of the park was experiencing unusual weather conditions, the North and West Entrances were not opened. On December 21 the roads between Mammoth and Old Faithful and West Yellowstone and Old Faithful were plowed for automobile travel over the Christmas holidays. Approximately 3,000 visitors entered the park by automobile during that time. About six inches of snow fell on Christmas Day, and the roads were closed to automobiles on December 26 while graders and groomers worked through the night to pull enough additional snow on the road for









snowmobiling. On December 27 the entire park was open for snowmobiling. In an effort to provide access to a gateway basin area for visitors in automobiles, the road to Norris from Mammoth was plowed for driving. The parking area at Norris became the jump-off point for snowmobilers traveling to Canyon or Madison. This decision seemed to work out very well.

Annual park visitation totaled 1,874,539 persons. This total reflects a decrease of 28.54% over the previous year. Winter visitation (January through April 1979, and November through December 1978) totaled 132,431 persons. This total reflects an increase of 33.43% over the previous year during the same period.

#### H. Entrance and User Fee Collections:

<u>Station</u>	<u>Summer</u>	<u>Winter</u>	<u>Golden Eagle Passports</u>	<u>Total</u>
North	\$ 85,134.50	\$ 5,143.00	\$ 15,790.00	\$106,067.50
West	237,148.00	19,351.50	42,510.00	299,009.50
South	33,503.00	3,179.00	7,860.00	44,542.00
East	147,701.00	1,599.50	31,600.00	180,900.50
Northeast	<u>46,771.00</u>	<u>----</u>	<u>9,020.00</u>	<u>55,791.00</u>
Total	\$550,257.50	\$29,273.00	\$106,780.00	\$686,310.50

In addition to fees collected from Single Visit Permits and Golden Eagle Passports, 8,133 Golden Age Passports were issued free of charge to persons 62 years of age or older.

Campground fees were collected in 14 campgrounds: (12 regular plus 2 group campgrounds), from approximately June 17 through October 31. The amount collected totaled \$419,613.12; an 11% increase over the 1978 season.

#### I. Special Use Permits: The Visitor Services Office issued 30 Special Use Permits during 1979.







J. Central Communications Center Records Summary

	<u>Year</u>		
	<u>1977</u>	<u>1978</u>	<u>1979</u>
Employee Vehicle Registration	2,442	2,269	2,300
Visitor Identification Notices	543	510	366
Backcountry Permits Recorded	8,099	7,700	7,870
No. of People on Permits	23,135	24,201	23,839
Teletype Messages Sent on Law Enforcement Teletype System	1,965	3,284	2,065
NCIC Inquiries	1,031	1,632	2,234
Law Enforcement Record Checks	3,278	4,163	4,129
All Points Bulletins	21	34	40
Field Interrogation Cards Filed	681	1,427	1,334

K. Fire Management

1. Structural Fires: Fire Brigade training took place in all districts during the summer and structure fire and wood stove safety schools were conducted at Park Headquarters utilizing instructors from Montana. Fire inspections totaled 85 for concession facilities and 25 for the National Park Service. Total property loss due to structure fire was \$7,784 which included four roof fires on the Old Faithful Inn and four other fires. Three vehicles were damaged or destroyed for an additional \$49,300 in estimated property loss. No injuries were reported as a result of the fires. A new 750 GPM Fire Truck was purchased for service in the Canyon area.

2. Wildland Fires: The most active fire season in several years was due to a dry spring and summer thunderstorms that were followed by hot dry weather. A total of 55 fires were reported and the total area burned was 10,990 acres. Two large fires were allowed to burn with minor suppression action confined to small portions of each and a third had major suppression action taken when it exceeded prescription.









The Gallatin Fire (2,650 acres) was discovered July 1 in old lodgepole pine and heavy spruce-fir understory. The point of origin was on the east flank of the 1974 Fan Creek burn. The fire was generally driven east-northeast and up slope. During the first weeks the fire burned hot for one or two days due to strong westerly winds and then would die down for three or four days. About half of the 1974 Fan Creek fire was reburned. Downed logs that were not consumed in the previous fire were burned this year. Nine-hundred acres were burned on July 17, and then the fire was less active until August 1. Monitoring flights during this period reported a half-dozen or fewer smokes.

Several spot fires developed from the Gallatin Fire the afternoon of August 4, going beyond prescription. Suppression action was taken on the resulting 710 acres which was known as the Fan Fire. This fire was suppressed to protect private and U.S. Forest Service lands outside the north boundary of the park, five miles away. Rain showers that started on August 6, limited activity to occasional puffs of smoke for the rest of the summer. Smoke was often concentrated in the West Yellowstone, Gallatin Valley, and Gardiner areas, but there were few complaints. Park rangers contacted many area residents to control rumors, and land owners north of the park were flown over the fire and were supportive of the natural fire program with few exceptions. The local and national press took an interest in this and other management fires.

The Washburn Fire (2,700 acres) was started by a lightning storm that ignited a total of 11 fires on July 20. Through August 2 the fire exhibited only occasional activity, covering about five acres. Under the influence of extremely severe wind and humidity conditions, the fire began a series of significant runs on August 3, and for 5 days was driven down slope by 10 to 30 mile-per-hour southwesterly winds. The front of this fire approached to within  $3\frac{1}{2}$  miles of the Tower Falls-Tower Junction developed areas, after crossing Tower Creek, just north of the Tower Creek-Carnelian Creek confluence.

Plans were made to protect the Government and concessioners' facilities and allow the fire to otherwise continue unobstructed. The remainder of August was wet and fire activity was naturally confined to smoldering and occasional crowning of individual trees through the rest of the season. On October 1 a small spot fire was discovered on the northern end of the fire. Due to the lack of available resources for the suppression of large fires and predictions for continued dry weather conditions, the







fire was extinguished. The fire never became an immediate threat to developments and protection plans were never implemented. During the period of greatest activity, an interpreter was stationed at Dunraven Pass. For about one week the smoke from this and other fires settled into all valleys in the park during early morning hours.

The Beaver-Heart Fire (4,900 acres) was two fires that also started on July 20, and had burned together by July 26. From this time until August 6, the fire made several runs. Spot fires were ignited up to one mile ahead of the main fire and the fire often continued crowning throughout the night. Shape and size were influenced by a 12,000 acre burn that had occurred in 1910 and which provided a barrier to the northeasterly progress of the fire. A small part of the perimeter was suppressed to protect the Heart Lake patrol cabin. During this period smoke trapped by morning temperature inversions often covered most of the park and sometimes drifted out as far as Jackson Hole. Westerly afternoon winds drove smoke into Cody and caused concern among residents who thought there was a fire close to Cody. An interpreter was sent to Cody, Red Lodge and the Bighorn Basin area to explain the Natural Fire Program.

The Beaver-Heart Fire was the largest fire that has occurred in Yellowstone National Park since the inception of the Natural Fire Program in 1972.

One lightning-caused fire was allowed to burn for three days before being suppressed. This fire was located near the south boundary of the park and a few miles east of the South Entrance. Due to predicted dry weather conditions and location, the fire was suppressed at less than one acre. Fourteen lightning-caused fires had no suppression action taken and were allowed to burn out entirely on their own. All of the other lightning and man-caused fires were controlled within 24 hours of detection.

Park rangers and technicians were dispatched to fires in the Olympic National Forest in Washington, BLM fires in Arizona and the Bridger-Teton, Shoshone, and Gallatin National Forests next to the park. Five requests were not filled due to shortages of personnel or other priorities. Yellowstone received interagency assistance consisting of 12 crews and overhead for the suppression effort of the Fan Fire.

3. Helicopter Operations: Helicopter use in Yellowstone began in March with a bison control program on the Yellowstone River. A Bell 47G was used for a six-day period, March 14 through 19.









A Hiller SL-3, owned by Hawkins and Powers Aviation of Greybull, Wyoming, and an Alouette III owned by Inland Helicopters of Grants Pass, Oregon, were contracted. Each helicopter had a 90-day contract period. The SL-3 was stationed at Mammoth during June, and at West Yellowstone, Montana, during July and August. The Alouette III was stationed at Mammoth during July, August, September and the first week of October.

Four other helicopters were used during the year. A Hughes 500D and a Jet Ranger were brought in for normal activities while the contracted Alouette III was down for maintenance. Another Alouette III was brought in from McKinzie, Oregon, for suppression activities on the Fan Fire, and a Jet Ranger was used for a rescue in late October.

Total fire use of the helicopters was 162.7 hours. There were 12 search and rescue operations involving helicopters for a total of 33 hours. Two bears were transplanted by helicopter this season, one for the Interagency Bear Study Team, and the other for the National Park Service.

Total use was 337.3 hours for the 7 helicopters on contract or under agreement during the year. Outside agencies contributed 117.8 hours toward guarantees.

#### L. Forestry Program:

1. Soil and Moisture Conservation: Detection and control of *Linaria dalmatica* continued from previous years along roadside areas. Manual grubbing was the only method of eradication used. The forestry crew obliterated some of the refuse and evidence of construction left from past years. Considerable effort was spent hiding evidence of the past year's hazard tree removal.

2. Insect and Disease Detection: Aerial detection was performed by the U.S. Forest Service. Severe mortality occurred this year in Douglas Fir stands in the northern part of the park. These stands had been chronically defoliated by Spruce Budworm for many years, with only a few trees being actually killed. The advance of the Mountain Pine Beetle may have been temporarily slowed by the severe winter, but is possibly being spread by firewood gatherers and the firewood concessioners. Training in insect and disease identification was provided for the forestry crew by the U.S. Forest Service.







3. Tree Hazard Identification and Removal: Forestry and laborer crews removed hazard trees from along the road between Canyon and West Thumb as well as from other specific sites. A project to remove all diseased and weakened trees from Indian Creek Campground was begun.









### III. RESOURCE MANAGEMENT AND VISITOR PROTECTION

#### M. Research Accomplished - Resulting in Publications

Baker, Richard G. and Gerald M. Richmond, Geology, Palynology, and Climatic Significance of Two Pre-Pinedale Lake Sediment Sequences in and near Yellowstone National Park. Quaternary Research 10, 1978, pp 226-240.

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Carlson, Clinton E., Noneffectiveness of RIBES Eradication as a Control of White Pine Blister Rust in Yellowstone National Park. Forest Insect and Disease Management, USDA, Forest Service, Northern Region, Report No. 78-18, Nov. 1978.

Daniel Robert G., Evaluation of Intermediate-Period Seismic Waves as a Geothermal Exploration Tool. Final Technical Report, Department of Geophysics, Stanford University, Oct. 31, 1978.

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Reynolds, Richard L., Comparison of the TPM of the Yellowstone Group and the DRM of some Pearlite Ash Beds. Journal of Geophysical Research, Vol. 84, No. B9, Aug. 10, 1979, pp 4525-4532.

Richmond, G. M., W. Mullenders, and M. Coremans, Climatic Implications of Two Pollen Analyses of Newly Recovered Parks on Latest Pliocene Age in the Washburn Range, Yellowstone National Park. USGS Bulletin 1455, 13 p.

Ward, David N., Thermophilic Methanogenesis in a Hot Spring Alkaline-Bacterial Mat (71 to 80°C). Applied and Environmental Microbiology, June 1978, pp 1019-1026.

#### Theses Received:

Krumpe, Edwin E., Redistributing Backcountry Use by Behaviorally Based Communications Device. Ph.D. Thesis, Colorado State University, 1979.

Shea, Ruth E., The Ecology of Trumpeter Swan in Yellowstone National Park and Vicinity. Master's Thesis, University of Montana, 1979.









#### IV. MAINTENANCE

- A. Buildings: Construction of the new Grant Village Maintenance Shop is approximately 85% complete. Construction was completed on two new solid waste transfer stations at Mammoth and Bridge Bay and on the relocated Utah Job Corps Center dorm.

In Mammoth, the exterior of the Administration Building, Buildings 4 through 11, and the interior of the Conference offices, Plumbing Shop, Carpenter Shop and Garage were all painted during the year. A new porch was constructed on Building #9, taking care to maintain the historical appearance. Office space within existing buildings has been completed for the Biologists and is partially complete for the Warehouse Property Office.

The park has substantially completed alterations to comfort stations at Madison, Old Faithful, Grant Village, Fishing Bridge, Canyon and Bridge Bay, making them accessible to handicapped persons. Four comfort stations at Madison have been refurbished with Marlite wallboard. A temporary comfort station, using a surplus trailer as a base, was installed at Mammoth while the museum was undergoing renovation and later moved to East Entrance. The existing roofing on the Mammoth School was removed and replaced with a three-inch urethane foam/silicone coated roof under contract with Western Urethanes. This roof significantly increases insulation of the school and promises to perform better in Yellowstone's climate as compared to the previous built-up roof.

- B. Utilities: Numerous repairs and minor construction tasks were completed during the year including rehabilitating the sprinkler system at Lake Hospital, replacing certain defective fire hydrants at Lake, repairing water main joints at Lake, installing septic tanks at East Entrance, repairing the Fishing Bridge sewage pond line, connecting the new transfer stations up to water and installing septic tanks, drilling new water supply wells at Pebble Creek Campground and Stevens Creek, and completing the heating system in Building #3.
- C. Roads and Trails: During the summer, 43.9 miles of park roads and parking areas were sealed and chipped including 25.3 miles accomplished by an Mc. set-aside contractor, J. Mc. J. Paving, and 18.6 miles accomplished by NPS crews and equipment. This chip/seal treatment was applied to the West Entrance/Madison road, to the Norris/Canyon road, and to several shorter stretches in the vicinity of Madison and Norris Junctions.







Continuing the program of rehabilitating badly deteriorated park roads, extensive work was accomplished by NPS crews on 5.8 miles of the Mammoth-Norris road running from the Gardner River Bridge near Indian Creek Campground to the Beaver Ponds Picnic Area. Roadside drainage was improved, several thousand feet of underdrain installed, soft spots in the road were removed and reconstructed and a 3" overlay applied over the entire length.

In conjunction with the contract chip/seal work in the West Entrance road, a crusher was set up at the Grayling Creek pit by the contractor. In addition to chip material for the contract work, 21,000 cubic yards of hot-mix aggregate and 2,845 cubic yards of chips were produced and later hauled by another contractor to a central storage location near Norris. The material will be used for upcoming road maintenance projects in the Norris vicinity.

Sheep Creek Bridge, located about one mile west of Cooke City on the Beartooth Highway, was inspected by the Federal Highway Administration in June 1978, as part of a NPS bridge inspection program. This bridge, constructed in 1932 of untreated Douglas Fir, was determined to be in critical condition and a load limit of five tons was imposed on the bridge. Traffic was diverted over a temporary stream crossing and the existing bridge replaced with an arched, 9-foot by 6-foot, corrugated metal culvert. Heavy traffic was allowed over the detour by mid-July and the arch culvert installed and the main road opened by early August.

Reconstruction of 1.7 miles of the Beartooth Highway between Cooke City and Sunlight Basin junction began during the summer under the direction of the FHWA. The reconstruction consists of realignment, widening and construction of a new base and pavement. Construction is expected to be complete by next year.

Construction was substantially complete on the Mammoth concession bus service facility and concession dorm area parking, access and landscaping. This project provides for storing, cleaning, fueling and servicing concession buses, provides for access, circulation and parking in the area and provides for landscaping of the concession dorm area. Planting and project completion is expected next year.

Landscaping earthwork was completed around the YACC dorms and messhall and necessary drainage installed. Planting is scheduled for next year.









Thermal area boardwalks were rehabilitated at Fountain Paint Pots, Upper Geyser Basin, Black Sand Springs and Mud Volcano.

D. Energy Conservation: The following retrofit projects have been completed during the year:

1. Storm doors and windows installed in numerous buildings throughout the park.
2. Canyon and Lake mess halls were insulated.
3. South District Office, Lake DSC Office, and Lake FWS Office were insulated and incandescent fixtures replaced with fluorescent fixtures.
4. Canyon Visitor Center hot water lines insulated.
5. Grant Campground Ranger Station was insulated.
6. Mammoth Vehicle Repair Garage was insulated.
7. Old Faithful Visitor Center ceiling was lowered and a wood stove installed for winter operations.

Funds were provided late in FY-79 for metering those quarters not now metered. Materials required for this project were purchased late in FY-79, and installation scheduled for next year.

Preliminary Energy Audits for all park buildings were completed during the year. The audits indicate actual or estimated energy use for each building as well as the building characteristics and operating hours. Due to the need for accurate energy data covering past years, quarterly energy data concerning buildings and utilities for FY-75 through FY-79 was validated and corrected as necessary. In conjunction with the program to reduce vehicle fuel consumption by at least 10 percent, all vehicle and equipment operation energy data for FY-78 and FY-79 was also validated and corrected as necessary.

E. Construction: Denver Service Center Field Office, Yellowstone. Three contracts totalling over five million dollars were advertised and awarded during 1979. The three projects will upgrade the water quality and fire protection in seven areas of the park. Work on the Second Phase of the Mammoth Water System began in late October and progressed through most of the earthwork at the plant site and the one million gallon reservoir by year's end. Due to the mild







fall and early winter, work was still progressing at year's end. The First Phase of the Canyon Water System began in early October and by the middle of November the Contractor had 99% of the new Pumphouse excavated and the Chlorination Building footings and foundation walls up. The work at the other five areas, (Bechler, Beartooth Road Camp, Lamar, Northeast Entrance, and Apollinaris Springs) also began in early October and most of the Spring Box at Apollinaris Springs was installed by the time the job shut down for the winter.

The First Phase of the Mammoth Water System began in March and was completed except for minor punch list items in August. This replaced and looped the water mains in Mammoth and doubled the pressure for fire fighting in and around the Administrative area.

The renovation of Building No. 1 was substantially completed in time for the successful dedication of the Horace M. Albright Visitor Center on September 19. Minor punch list items still remained at the end of the year.

The temporary water treatment facility at Canyon was totally completed when the manufacturer made the final adjustments and the punch list items were completed. The plant ran successfully for the season and alleviated the water shortage of 1978.

All punch list items for the four concession dormitories were completed during the year.

The preliminary design and field checks were made on the new water systems at Old Faithful, Tower Junction, Tower Falls, Lake, Grant Village, Norris and Madison in conjunction with the A/E Designers. This field work ties our water quality and field investigation studies of the past three years into the design stage. All seven of these areas should be advertised or awarded during 1980.

More complete information on the Grant Village Sewage System was gathered and is being drawn up so that there is a record of the existing system. Canyon, Fishing Bridge, Lake, Bridge Bay and Old Faithful have been previously done and we plan on completing Mammoth this year.









## V. OTHER

### A. Special Events and Activities:

1. Tri-State Travel Forum, May 21-22: In lieu of separate Governor's Conferences in 1979, a Tri-State Travel Forum was held at the Old Faithful Lodge on May 21 and 22. It was sponsored by the Idaho Division of Tourism and Industrial Development, Montana Travel Promotion Unit, Wyoming Travel Commission and the Yellowstone Park Company. This was the first time in a number of years that a Tri-State Conference was held. It provided the National Park Service with a key opportunity to take a leadership role in giving direction to tourism in the Rocky Mountain States. Superintendent Townsley moderated a discussion on current Rocky Mountain national park plans and projects. Agenda items for the Forum included:

National Parks Look to the Future  
 Yellowstone Park Company, 1979  
 The Private Campground Owner - What's in Store?  
 A Look at the Hotel/Motel Industry  
 International Marketing - How Does it fit Tri-State?

2. Advisory Board Meeting, June 25-29: The Secretary's Advisory Board met in Yellowstone on June 25 through 29. The committee had been asked by Director Whalen to review the proposed development of visitor facilities at Grant Village as called for in the General Management Plan for Yellowstone National Park, dated 1972. In its review, the committee was also here to examine circulation patterns within the park, the availability of accommodations in adjacent areas, and the need, if any, to increase overnight capacity within the park. It was suggested that they also view the Island Park Geothermal Area, which had become the focal point of national controversy.

Two briefing books were put together on Grant Village and one was done on the Island Park Geothermal Area.

The National Park Service Advisory Board Task Force consisted of: Nathaniel Owings, Big Sur, California; Linden C. Pettys, Lussington, Michigan; and Larry Erickson, Minot, North Dakota.

3. Park Colloquium, August 9-11: Director Whalen invited 12 national leaders of the park and recreation community to meet with him and Deputy Director Hutchison at Yellowstone on August 9 through 11 to discuss the role of national parks in the 1980's.







The Colloquium began at 6:00 p.m. on Thursday, August 9, with a reception and dinner at Superintendent Townsley's home. On Friday, August 10, the group spent the morning in meetings on National Park Service concerns. They were taken by YACC vans to Indian Creek Campground, where YACC sponsored a cookout picnic. Discussions resumed in the afternoon. The group was transported from Indian Creek to Old Faithful Inn where they had dinner and toured the Old Faithful area. On Saturday morning the group met again in Mammoth for their final session. Earlier in the morning, Director Whalen was involved in some filming activities with National Geographic. Lunch was provided at the Townsley's, and many participants were taken to local airports to catch their planes home.

4. Museum Dedication, September 19: The Horace M. Albright Visitor Center in Mammoth was dedicated at 11:00 a.m. on September 19. Guest speaker for the ceremonies was David Hales, Deputy Assistant Secretary of the Interior. Other honored guests included; Clarence (Pop) Scoyen who was born on Capital Hill in Yellowstone in 1895; Isabel Haynes, wife of Jack Haynes; Ted Chittenden; and Dr. Fritiof Fryxell. The Yellowstone Library and Museum sponsored a no-host barbeque lunch following the dedication ceremonies. It was estimated that approximately 400-500 persons attended the ceremonies.

5. Wild Trout Symposium, September 24-25: The second Wild Trout Symposium, sponsored by the Federation of Fly Fishermen, Trout Unlimited, and the Department of Interior, was held in Mammoth on September 24 and 25. The Symposium Moderator and Summarizer was Starker Leopold of the University of California. Other participants included Nathaniel Reed of the Secretary's Advisory Board, and Robert Harbo, Assistant Secretary of Interior on Fish, Wildlife and Parks. Superintendent Townsley was Master of Ceremonies at the closing dinner.

- B. Media Relations and Public Affairs: A total of 215 special visitors came to Yellowstone in 1979, excluding special visitors who came to Yellowstone in conjunction with special events such as the Wild Trout Symposium, Park Colloquium, Horace Albright Visitor Center Opening and Dedication, Tri-State Travel Forum, etc.

Of the 215 special visitors, 47 came to photograph for magazines, television and other media. The breakdown according to individual months is as follows:









<u>Month</u>	<u>Visitors</u>	<u>Month</u>	<u>Visitors</u>
January	2	July	48
February	5	August	51
March	10	September	5
April	18	October	20
May	30	November	0
June	27	December	0

Of the 215 special visitors, 90 were from foreign countries. A breakdown according to each country and the number of special visitors from each is as follows:

<u>Country</u>	<u>Visitors</u>	<u>Country</u>	<u>Visitors</u>
Africa	6	Iceland	2
Australia	2	Israel	6
Austria	21	Japan	2
Belgium	4	Mexico	1
Canada	5	New Zealand	1
Chile	2	Poland	8
Czechoslovakia	3	South America	5
France	9	Taiwan	2
Germany	6	Thailand	3
Holland	1		

The Tri-State Forum, the Park Colloquium and the National Park Service Advisory Board Meeting were all coordinated through the Public Affairs Office.

The Public Affairs Office also helped in planning and preparing for a press reception held at Superintendent Townsley's house for the new concessioner in Yellowstone, TWA Services, Inc. Persons from local radio stations, newspapers and travel promotional units in the three surrounding states were invited to attend. The reception was held in September.

Forty-one press releases and three public service announcements were prepared and distributed to the media.

- C. Safety: The safety program in Yellowstone National Park continues to receive high priority. A full-time Safety Manager (Assistant Regional Safety Manager) remained in residence and spent a large portion of his time out in the park. Parkwide Safety Committee meetings were held monthly. June through September these meetings were held at Madison, Canyon, Lake and Old Faithful, and during







the winter months at Mammoth. District safety representatives were appointed and they conducted meetings during the summer in their districts. Workcrew "tailgate" safety meetings were held on a regular basis. The parkwide Safety Committee consisted of representatives from all divisions and representatives of the concessioners operating in the park. A representative from the YACC Camp is also included on the committee.

Prior to the start of the snowmobile season, training sessions on the safety and maintenance of the machines were conducted. These training sessions were held at the Vehicle Repair Shop and conducted by trained personnel. It is mandatory for any employee who operates a snowmachine to attend these classes. Each Division Chief is responsible for on-the-machine training of the over-the-snow operation of the machine.

Defensive driving classes were conducted monthly during the year, with 249 National Park Service and YACC employees receiving certificates. All employees must have a course in defensive driving within 30 days after obtaining their operator's permit.

Numerous first aid and CPR classes were held during the year, with NPS and YACC employees in attendance.

A comparison of accidents for the past three years is as follows:

	<u>1977</u>	<u>1978</u>	<u>1979</u>
Fatalities	5	5	3
Employee Accidents	39	46	66
Employee Vehicle Accidents	19	38	22

Two fatalities occurred when a female visitor, while fishing, fell into the water and drowned. Her husband drowned while attempting a rescue. The third fatality occurred when a male visitor, driving near the Tower Store, hit a rock barrier and was killed. A committee of employees was appointed to review each accident and reports were submitted.

After each employee motor vehicle accident, a review team, chaired by the Division Chief, meets to discuss the accident, determine whether or not the accident could have been prevented, and decide upon the appropriate disciplinary action to be taken when warranted.

The Safety Manager attended the Departmental Safety Conference in Denver and also a training session on electrical safety presented by the National Park Service.









#### D. Auxiliary Programs:

1. Young Adult Conservation Corps (YACC): 1979 was a year of ups and downs for the YACC Program, and while YACC was forced to operate under many constraints, the final result was a tremendous amount of work accomplished in the park.

Recruiting of corpsmembers has been effective in Montana, Idaho, and Wyoming. Late in the year we enjoyed a waiting list situation with more applicants than we could accept. In coordination with the Regional Office and DOI officials in Chicago, we have recruited blacks from the inner city for employment in Yellowstone with good results.

At this time we anticipate no problem in maintaining corpsmember strength at 100. A problem is the turnover rate. The average length of stay is only 95 days. We are taking action to improve conditions to retain individuals longer.

We have an effective Affirmative Action Plan for staff recruiting that has improved our minority status to 2 minorities and 5 women on our 16 person staff.

The position of Center Director was vacant from November 4, 1978, through August 26, 1979. At first the Work Coordinator was Acting Director, then the Administrative Officer, until the position was filled. Jack E. Angus is now the Center Director with Jeff Tiberi as Work Coordinator. All other staff positions are filled at this time.

WASO has imposed a ceiling of 14 staff positions, and we need 16 positions to operate effectively. The ceiling of 14 requires that we fill the additional positions on a temporary basis which causes constant turbulence in those positions.

The YACC has accomplished a tremendous amount of work effort during the year. About 70% of the corpsmembers are assigned to the various NPS divisions with the majority to Maintenance. This is perhaps the most productive way to employ the YACC workforce, although it tends to homogenize the work effort and makes the total YACC contribution difficult to identify.

Our spike camp operations in the park have been very successful during the year. During most of the year, YACC corpsmembers were assigned to Canyon, Lake, Morris, Madison, Old Faithful and Grant. During the winter we have two corpsmembers assigned to Canyon, Lake, Madison, Grant and Old Faithful. Four additional corpsmembers are wintering over at Grant for interior painting.







Successful out-of-park spike camp operations were conducted at Bighole National Battlefield and Fort Laramie National Historic Site. Construction projects were completed for Bighorn Canyon National Recreation Area and Craters of the Moon National Monument. A YACC crew was sent to support firefighting efforts in Shoshone National Forest east of the park for several days on the Sulphur Creek Fire. They were used effectively in base camp and support roles.

The food service operation is working very well to support YACC work efforts. Not only does the top-notch food service contribute greatly to corpsmember morale, but it is also a training program to teach the whole range of food service operations to the corpsmembers assigned. The dining hall is also effective in feeding groups that come to Yellowstone for training or conferences.

We have been unable to start construction on an Administrative Office or a recreational facility. We need these facilities because at present we are occupying two rooms in the women's dorm for this purpose. We hope to have all the environmental clearances required so we can start construction in the spring.

2. Volunteers-in-Parks (VIP's): The Volunteers-in-Parks program continues to be an effective and much needed program with more and more highly qualified individuals contributing their time and talents. Participation remained approximately the same in 1979, as in the previous year, which involved 9,887 hours of work donated.

Although housing and subsistence payments increased only slightly, we were able to award each VIP with a book of their choice in an effort to express our appreciation. As before, most of the volunteers are families of concession employees, NPS employees on their "off" time, and families of Park Service employees.

3. Youth Conservation Corps (YCC): One co-educational seven day residential YCC camp was operated in 1979. The 28 enrollees reported to camp on June 17, 1979, and were headquartered at the ATCO trailer camp at Grant Village. The camp was operated by the Student Conservation Association, Inc. (SCA), which provided the eight qualified camp staff members, assisted by three SCA Park and Forest Assistants part-time. The camp closed on August 12. One enrollee was terminated during camp due to disciplinary problems.

This was the last year for SCA to operate the camp under the renewal clause of the existing contract. Camp operations for the









1980 season will require advertising for a new contract. Due to the strong probability of heavy construction in the vicinity of the present trailer camp, a new camp location will have to be found for the 1980 operation.

The camp budget for FY-79 was \$52,800, which covered staff and enrollee salaries, and other operation and maintenance costs. No major purchases of equipment were made.

All enrollees were instructed in: hand tool orientation and safety; first aid; cooking; canoe handling and safety; work attitudes; nutrition; backcountry living; and family living. There were no safety incidents. Two cases of illness were reported, but were of short duration.

Work projects centered in the backcountry with trail construction, relocation, and maintenance comprising 60% of the work hours expended. A major trail project was the completion of the Mystic Falls/Buffalo Meadows Loop Trail, which was started in 1978. One project of special note was the relocation and bridge construction on the Old Faithful cross country ski trail. Other major work projects were vista clearing (Grant Village), campsite improvement (Mallard and Shoshone Lakes), and trail bridge construction at three backcountry locations. Four portable "Wallowa" toilets were installed at backcountry campsites on an experimental basis. Most of the projects are of direct benefit to the park visitor - summer and winter. Enrollees assisted the Fish and Wildlife with the operation, maintenance, and repair of fish traps, and fish population surveys for the fourth summer.

Appraised value of work projects was \$49,020.00, with 8,778 environmental work/learning hours invested by the enrollees. Direct Bureau (NPS) costs for technical supervision were \$791.00 distributed in small amounts throughout the program.

4. A Christian Ministry in Yellowstone National Park / The Gardiner-Mammoth Winter Ministry: These yoked interdenominational ministries are related nationally to "A Christian Ministry in the National Parks". The program is self-supporting, with funding received primarily from the offerings received at the services of worship sponsored by the ministry. No Government funds are provided nor sought for support.

The ministry provides interdenominational services of worship the year-round for park visitors and permanent residents. During the winter months, the Resident Minister, Pastor Edward Purkey, conducts the services at Mammoth Hot Springs in the Yellowstone National Park Chapel. A Student Intern conducted regular services of worship at Old Faithful during the winter season.







In the summer season, the Christian Ministry arranged for 46 seminary and college students from 16 different Catholic and Protestant denominations to conduct ministry activities for the park visitors and employees. There were 32 interdenominational services of worship each Sunday at various locations and times throughout Yellowstone. Attendance at these services this year totalled over 17,500, down 3% from 1978. The slight decrease was principally due to reduced park visitation. The Resident Minister and the student staff provided counseling, crisis intervention, referral for social problems, emergency transportation, assistance for stranded visitors, and visitation to the hospitalized in the park.

The Christian Ministry again for the 29th year sponsored a series of choral and instrumental music services in four areas of the park during August. A choir of 90 voices and a 20 piece chamber orchestra (both comprised of park employees and residents) performed selections from "The Messiah" by Handel.

#### E. Status of Planning:

1. Old Faithful Area and Lake Area Development Plans: Preliminary work began near the end of 1979 on developed area plans for Lake and Old Faithful when money became available through reprogramming of planning funds scheduled for studying the South Entrance. A planning team was selected with park visits by team members scheduled for early 1980.

2. Grant Village Area Development Plans: Denver Service Center continued work on the DCP for Grant Village. Work progressed to the point of soliciting public comment on the environmental assessment. The Office of Management and Budget deleted Grant Village construction from the Servicewide 1981 construction program. Work on the plan at that point was terminated.

An Architectural Engineering firm, Spencer and Associates of Palo Alto, California, had been retained for the design of the first phase of construction funded in the 1980 program. That work was also terminated. Funding available in the 1980 program for 100 rental units and the water system were reprogrammed and used for acquisition of the Yellowstone Park Company assets.

3. Telephone Service: Negotiations continued with Mountain Bell regarding major upgrading of the parkwide telephone system.









Decisions were reached regarding the installation of a parkwide microwave radio system with Mount Washburn as a major hub for that system. First phase of this major improvement program (Mammoth, Tower, Cooke City), was completed with microwave from Mammoth to Tower via Bunson Peak and Buffalo Plateau and underground cable from Tower to Cooke City. This improvement was completed in the fall of 1979 and will allow the removal of 54 miles of overhead line through the Lamar Valley during the winter of 1979 and 1980.

Design of facilities, selection of microwave reflector sites and the environmental assessment were all completed during the year. Design of a building addition to the Mount Washburn Fire Tower to accommodate new equipment will continue into 1980. Mountain Bell's capital program associated with this project exceeds \$3.5 million. As system improvements are installed, negotiations are underway for improved service to the park, park concessioners and park visitors, including computerized reservation capabilities, 911 emergency call service, and other improvements.

4. Concession Facility Rehabilitation: Following the massive concession inventory effort conducted in the fall of 1978, rehab and maintenance programs were formulated for the major rehab of the acquired Yellowstone Park Company properties. Work began in the fall of 1979 for major safety and health improvements in the three major hotels at Lake, Old Faithful, and Mammoth.

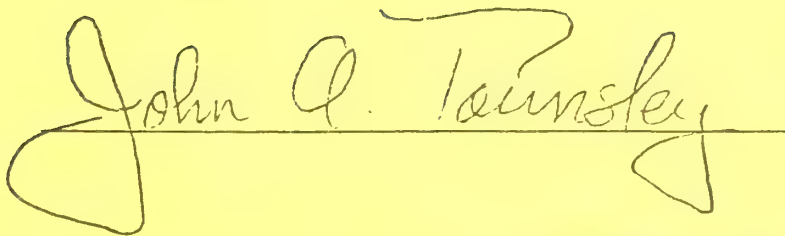
- F. Annual Objectives: The completion rate for the 1979 Annual Objectives was 75%. Each year the Objectives are reviewed to determine the status of those that have not been accomplished. During the year, the 1980 Annual Objectives were established and sent to the Rocky Mountain Regional Office.







1980  
ANNUAL REPORT  
OF THE  
SUPERINTENDENT  
YELLOWSTONE NATIONAL PARK

A handwritten signature in dark ink, reading "John Q. Tainley". The signature is written in a cursive style with a large, looping initial "J". A horizontal line is drawn across the middle of the signature.

Date: 2/23/1981

YELLOWSTONE  
NATIONAL PARK  
LIBRARY



## CONTENTS

	<u>PAGE</u>
<b>I. <u>ADMINISTRATION</u></b>	
A. Budget and Finance . . . . .	1-2
B. Procurement . . . . .	2
C. Supply . . . . .	2
D. Property . . . . .	2
E. Office Services : . . . .	2
F. Personnel . . . . .	2-4
G. EEO . . . . .	4
H. Concessions . . . . .	
1. Concessions Management . . . . .	4-5
2. Concessioners . . . . .	5
<b>II. <u>INTERPRETATION AND VISITOR SERVICES</u></b>	
A. General Interpretation . . . . .	6-7
B. District Interpretive Activities . . . . .	
West District . . . . .	7-11
South District . . . . .	12-14
North District . . . . .	14-17
Historian and Park Archives . . . . .	17-18
Library . . . . .	18
Museum Collections . . . . .	18-19
Exhibits . . . . .	19
Yellowstone Library and Museum Association . . . . .	19-20
Big Hole National Battlefield . . . . .	20
Status of Planning . . . . .	20
<b>III. <u>RESOURCE MANAGEMENT AND VISITOR PROTECTION</u></b>	
A. General . . . . .	21-22
B. Law Enforcement . . . . .	22-23
C. Regulations . . . . .	23
D. Tort Claims . . . . .	23
E. Weather Conditions . . . . .	23-24
F. Fish and Wildlife Management . . . . .	
1. U.S. Fish & Wildlife Service Technical Assistance . . . . .	24-26
2. Wildlife Management . . . . .	26-27
3. Threats to Park Resources and Backcountry Management. . . . .	27-28
G. Wilderness and Backcountry Management . . . . .	28-29
H. Park Visitation . . . . .	30
I. Entrance and User Fee Collections . . . . .	30-31
J. Special Use Permits . . . . .	31
K. Central Communications Center Records Summary . . . . .	31





### III. RESOURCE MANAGEMENT AND VISITOR PROTECTION (cont)

L. Fire Management . . . . .	
1. Structural Fire . . . . .	31-32
2. Wildland Fires . . . . .	32
3. Helicopter Operations . . . . .	32
M. Forestry Program . . . . .	
1. Fuels Inventory . . . . .	32
2. Backcountry Cleanup . . . . .	33
3. Exotic Weed Control . . . . .	33
4. Hazard Tree Removal . . . . .	33
5. Old Faithful Inn . . . . .	33
N. Research Accomplished . . . . .	34-35

### IV. MAINTENANCE

A. Buildings . . . . .	36
B. Utilities . . . . .	36
C. Roads and Trails . . . . .	36
D. Energy Conservation . . . . .	37-38
E. Fire Safety . . . . .	38

### V. OTHER

A. Public Information Office . . . . .	
1. Personnel Actions . . . . .	39
2. Press Releases and Media Relations . . . . .	39
3. Meetings and Conferences . . . . .	39
4. Filming Permits . . . . .	40
5. Publication Editing Requests . . . . .	40
6. Photo/Slide Requests . . . . .	40
7. General Information Services . . . . .	40
8. Special Events . . . . .	
a. World Heritage Media Seminar . . . . .	41
b. Foreign Military Air Attache's Visit . . . . .	41
9. Official Visitors . . . . .	41-42
B. Safety . . . . .	42-43
C. Auxiliary Programs . . . . .	
1. YACC . . . . .	43-45
2. YCC . . . . .	45
3. VIP . . . . .	45
4. A Christian Ministry . . . . .	45-46
D. Status of Planning . . . . .	
1. Old Faithful DCP . . . . .	46
2. Grant Village DCP . . . . .	47
3. Telephone Service . . . . .	47
Visitor Statistics Chart . . . . .	48



# YELLOWSTONE NATIONAL PARK

Construction - DSC

1571-01 Park Manager (Superintendent), GS-025-15\*  
 1571-05 Park Manager (Asst Superintendent, Opr), GS-025-14\*  
 1571-23 Park Ranger, GS-025-09\*  
 1571-20 Secretary (Stenography), GS-318-7\*

Big Hole National Battlefield  
 1585-17 Park Manager (Superintendent), GS-025-11\*

1571-18 Safety Manager, GS-018-11\*

1571-17 Photographer, GS-1060-07\*

Biologist Office  
 1579-45 Research Biologist, GS-401-13\*

1571-11 Landscape Architect, GS-867-11/12\*

Concessions Management  
 1571-10 Concessions Mgt Spec, GS-110-13\*

Interpretation & Visitor Services Division

North District  
 South District  
 West District

Resource Management & Visitor Protection Division

Headquarters  
 North District  
 Canyon District  
 Lake District  
 Snake River District  
 Old Faithful District  
 West District

Maintenance Division

Special Projects B & U  
 Special Projects R & T  
 Equipment Repair Shop  
 North Unit  
 South Unit

Administration Division

Personnel Branch  
 Programs Branch  
 Contracting & Property  
 Management Branch  
 YACC Camp

APermanent

\*\*Subject-to-Furlough

\*\*\*Seasonal



## SUPERINTENDENT'S ANNUAL REPORT - YELLOWSTONE NATIONAL PARK - 1980

### I. ADMINISTRATION

- A. Budget and Finance: The programs staff remained stable during 1980, with approximately 7.2 workyears expended. The following expenditures and financial transactions were made during 1980:

General Management	\$ 458,100
Interpretation	\$ 415,100
Resource Management and Visitor Protection	\$1,394,500
Administration	\$ 754,900
Research Biology	\$ 179,300
Maintenance of Roads and Trails	\$2,100,000
Maintenance of Buildings, Utilities and Grounds	\$2,687,100
Motor Vehicle Operations and Replacement	\$1,131,600
Fee Collection	\$ 444,100
Educational Expenses - Children of Employees, Yellowstone National Park	\$ 410,000
*Quarters Maintenance and Operation	\$ 461,700
*Sanitation Collection and Disposal Expense	\$ 397,200
*Water and Sewer Expense	\$ 307,500

\*Not financed from appropriated funds. Funds received from quarters rents and assessments to concessioners and service companies.

We issued 923 Bills for Collection and deposited \$976,400 to the treasury. A total of 338 utility bills, gasoline credit card bills, tort claims, miscellaneous bills and car rentals amounting to \$829,900 were processed. Journal vouchers totaling \$1,474,700 on 193 transactions were made. Fee



collections totaling \$1,140,800 were collected at the 5 entrances and 12 campgrounds.

- B. Procurement: The procurement staff remained fairly stable during 1980, with all procurement accomplished with a total of 3.2 workyears expended. Procurements included 3,184 actions under \$10,000 each and 48 actions over \$10,000 each for a total expenditure of \$4,030,028.
- C. Supply: Supply operations were significantly affected by the six-month vacancy of the supervisory position, the turnover in the accounting technician position and the theft of a new chainsaw. The latter resulting in the changing of all locks entering the Supply Center. A total of 6,709 supply issues were transacted with a staff totaling 4.3 workyears.
- D. Property: The two technical positions in the property function were vacated by the retirement of seasoned employees. The Property Utilization Specialist position was filled by a minimally qualified individual affected by the classification downgrade of the Supervisory Supply Technician position in Supply. Property's Supply Technician (GS-05) position was also filled with an unseasoned individual, as is usually the case for lower graded positions. The function has accordingly suffered, however, new programs were initiated to balance inventories, control acquisitions, lower inventories, improve accountability and improve the accuracy and timeliness of reports.
- E. Office Services: The turnover of all critical positions in this function was 100% during 1980. Nevertheless, the quality of the outgoing and incoming personnel has resulted in a smooth operation and good support to park operations. A total of 1,898,490 photocopies were made at a cost of \$40,309 (excluding labor).
- F. Personnel: The staffing in the Personnel Office remained relatively stable during 1980, with a total of 6.5 workyears expended. One position was redesigned to improve our management of employee development, incentives and employee evaluation.

The Personnel Office received a classification review which resulted in the reclassification and upgrade of a Clerk-Typist GS-3 to Staffing Clerk GS-4; our GS-9 Personnel Management





Specialist was upgraded to a GS-10 and our GS-11 Personnel Management Specialist was retitled to Personnel Officer at the same grade. Four incumbent positions were upgraded due to accretion of duties with two actions being taken by the Regional Office and two by this office.

The turnover rate in Yellowstone has remained higher than normal at 19%. Twelve employees retired, 10 resigned, 1 died and 15 transferred. We issued 92 announcements on 132 vacancies for both permanent and seasonal employment.

Several Personnel meetings were held in various districts of the park during 1980. These sessions were very well received and helped to answer employee questions regarding a variety of personal concerns.

The Special Examining Unit (SEU) was expanded in 1980, to include all seasonal wage grade positions. We did not include the permanent wage grade positions due to the workload on our part-time staffing employees. The SEU has resolved our problems with clerical recruitment. We now have a plentiful supply of qualified candidates. The public contact work has increased significantly with job related inquiries at times exceeding 100 per day.

One hundred and thirty-nine (139) Worker's Compensation cases were handled during 1980. About one-third of the cases were enrollees of the Young Adult Conservation Corps.

In 1980, we completed 2,153 classification actions, conducted 36 audits and referred 16 classification actions to the Regional Office for final action. Four positions were downgraded due to classification error. Two park staff utilization studies were completed with recommendations being made to the Chief Naturalist and Chief Ranger.

During 1980, 101 training courses were attended by 376 trainees. To compensate for reduced budgets and travel ceilings, we offered more local training to cut the per/person cost. Nineteen local training courses were offered during 1980 with eight being required supervisory training.

Seven employees received Special Achievement Awards totaling \$1,900. The recipient were:

Ruth Cothrun	\$300.00
Marc Bell	\$200.00
Lester Inafuku	\$200.00



Eleanor King	\$400.00
Colette Daigle	\$200.00
Laura Bittner	\$300.00
Patricia Proffit	\$300.00

Kathy Smyth and Thomas Pope received Quality Salary Increases. Five suggestion awards were made as follows:

Linda Miller	\$200.00
Gene Herne	\$500.00
Ray Pugsley	\$ 25.00
Lewis Beer	\$200.00
Barry Mathias	\$200.00

Twenty-six length of service awards were presented in 1980.

- G. EEO: Our status employment of women increased from 25.2% in 1979 to 26.1% in 1980. The percentage of women in wage grade positions and general schedule positions above GS-5 increased from 4.4% to 7.5%, including hiring our first woman foreman. Our employment of minorities in status positions increased from 2.7% to 3.1%. Seasonal employment of women increased from 21% in 1979 to 23.4% in 1980, however, seasonal minority employment decreased from 5% to 4%.

Budgetary and position ceiling limitations and the lack of local resident minorities continue to make realization of our employment goals difficult. We developed a pamphlet outlining living conditions in the park to be used specifically for minority recruitment. In addition, a mailing list was developed for women and minority contacts.

Approximately one-third of all merit promotion announcements were advertised with career ladders in 1980. In addition, three upward mobility positions were established in 1980; an Electrician (Trainee), WG-3/4/5/8/10, an Equipment Specialist, GS-4/5/7 and a Plumber (Trainee), WG-5/7/9.

A day care center was opened in the park in 1980. This has helped us attract and retain women and minority employees.

#### H. Concessions:

1. Concessions Management: Personnel in the Division of Concessions Management remained the same this year with the exception of Joe Alston, Concessions Specialist. Mr. Alston transferred to the National Park Service Area Office at Anchorage, Alaska. He will be replaced in Yellowstone by Mr. Bruce Wadlington, who has transferred here from Crater Lake National Park.



On November 1, 1979, TWA Services, Inc., was authorized to provide the same facilities and services as the previous concessioner, Yellowstone Park Company. This contract will be for a two-year period, ending October 31, 1981. Under their contract, TWA Services agreed to cap its profit (pre-tax approximately \$350,000) in each operating year and specifically commit itself to spending 13.6% of gross sales on a Government-directed rehabilitation and improvement program. To date, approximately \$3.2 million has been invested in this program. The major portion of this money was spent for fire safety improvements in the park's major hotels, i.e., the Old Faithful Inn, Mammoth Motor Inn and Lake Hotel.

A Statement of Requirements has been prepared advertising the concession opportunity now being operated by TWA Services. This Statement of Requirements will be released to the public in the near future and a new operator selected prior to the expiration of the TWA Services contract.

The Triangle Firewood Company contract expired December 31, 1980. A Statement of Requirements was prepared and published. Three proposals were received and a selection will be made in January of 1981.

Comprehensive Health Systems' contract to provide medical services expired April 30, 1980. West Park Hospital of Cody, Wyoming was authorized to provide the medical services in Yellowstone under the terms of a five (5) year contract. Services and facilities remained essentially the same as under the previous contract; however, under the old contract, Government support (\$100,000 annually) was required. Under the contract with West Park Hospital, user fees will be relied on to cover operational expenses.

2. Concessioners - TWA Services reported 632,988 overnight guests during the 1980 summer season, compared to 629,059 in 1979. TWA Services served 1,450,472 guest meals in 1980, compared to 1,425,125 served in 1979.

Hamilton Stores, Inc., reported that sales increased approximately 10% from 1979 to 1980.

Yellowstone Park Service Stations sold 3,159,814 gallons of gasoline in 1980 compared to 3,586,167 in 1979.



## II. INTERPRETATION AND VISITOR SERVICES

### A. General Interpretation:

The interpretive staff, both permanent and seasonal, were reduced in numbers. The intake trainee position was lost when it was vacated, and the South District Naturalist position remained vacant at the end of the year. Budget cuts reduced the seasonal staff to 43, down 8 from the previous year. The need for interpretive services did not lessen, however, so there was real frustration in not being able to provide all the services needed. The staff worked extra hard and many favorable responses were received from the public.

The staff was composed of the following:

#### 1. Supervisory - Permanent

- a. Alan Mebane - Chief Park Naturalist
- b. John Tyers - Assistant Chief Park Naturalist
- c. Joe Halladay - West District Naturalist
- d. Frank Walker - South District (until 11/80)
- e. Tim Manns - Historian/North District

#### 2. Non-supervisory - Permanent, Subject to Furlough

- a. Phyllis Schoeninger - Secretary (STF)
- b. Linda Green - Curator (STF)
- c. Bill Lewis - Oral Communication Counselor (STF)
- d. Ron Thoreson - Intake Trainee (until 3/80)

#### 3. Supervisory Seasonals

- a. Ted Parkinson - South District (STF)
- b. John Whitman - Mammoth
- c. Noel Ary - Canyon
- d. Harlan Kredit - Fishing Bridge
- e. Cawood Gilbert - Grant
- f. Frank Balthis - Old Faithful

#### 4. Non-supervisory seasonals: There was a total of 38 other seasonals, of which 12 were new. In addition, we had three employees through YACC, three from the Student Conservation Association, and one student intern from Colorado State University.





Former Park Historian Anthony Dean was killed in an accidental fall at Grand Canyon National Park, where he was working as an instructor in the Albright Training Center. This tragic loss was felt deeply here where Tony had many friends and associates.

With rapidly increasing interest in revising the exhibits at the Canyon Visitor Center to interpret the volcanic story of Yellowstone, the division staff worked with the Regional Office to write a new interpretive plan for the park. John Reed made a comprehensive survey of the non-personal interpretive facilities and visitors use of them during August. The plan was being drafted at year's end with completion scheduled for winter 1981.

The Chief Naturalist went to Egypt in June for two weeks as an instructor of a seminar on Conservation Area Planning and Management. Three of these seminars were organized at the request of the United Arab Republic of Egypt and paid for by the Egyptian funds owned by the United States from a surplus of trade. The trainees were selected to serve in a new Wildlife Conservation Unit in Egypt.

The Yellowstone Institute continued to offer a variety of field courses as extended interpretive experiences and opportunities for college credit. Fourteen courses were offered, but four were cancelled for lack of attendance or illness of the instructor. The 10 courses were attended by 129 people, the same number as in 1979. The Director of the Institute, Dr. Tim Clark, resigned in October and was replaced by Mr. Richard (Rick) Reese.

#### B. District Interpretive Activities:

West District: The 1979-80 winter season got off to a slow start due to very little snow in December. However, by early January 1980, adequate snow had fallen and winter recreational use assumed nearly normal levels. Due to an outstanding job of road grooming done by the maintenance crew between West Yellowstone and Old Faithful, very few complaints were heard around town.

The Yellowstone National Park Travel and Information Center was operated jointly during the 1979-80 winter season by TWA Services, Inc., and the National Park Service. In accordance with their contract agreement, TWA Services, Inc., leased the facilities and provided space for the National Park Service to operate an information desk and to display exhibits.



TWA Services, Inc., made multipurpose use of the T & I Center again this year including reservations desk, snowcoach terminal and bus terminal. Their bus service (Yellowstone Park Lines) consisted of daily service to Big Sky and Bozeman. A certain amount of freight also came through this terminal.

The T & I Center was again housed in the old First Security Bank building across from the Convention Center. For the first seven weeks the side room was not available, and therefore, the audio-visual program was not used. During the remainder of the season the program was in operation and several showings were given daily. In addition, offers were made to the motel managers in town to give programs, upon request, in their facilities.

In total, the automatic audio-visual program was shown 60 times to 273 visitors, while 11 live evening presentations were given to an attendance of 69, and one off-site program was seen by 40 persons.

Two GG-4 park technicians were hired to provide the informational and interpretive services. The information desk was manned daily from 8:00 a.m. to 5:00 p.m., with additional hours for those evenings when slide programs were presented. Information center contacts included 558 snowmobilers, 346 cross-country skiers, 4,498 snowcoachers, and 1,300 requests for general information. The information desk closed on the evening of March 9. The West Entrance was closed to snowmobiling on the morning of March 18.

The West District Naturalist and one of the park technicians assisted with the first aid station and other operational details during the 50-km Great American Ski Chase which was held at West Yellowstone in January.

The West District Naturalist accompanied the Chief Park Naturalist in a meeting at St. Anthony, Idaho, with the Rotary International for a discussion of the Island Park Geothermal Area.

In June, the West District Naturalist participated in the Chamber of Commerce sponsored meeting of the West Yellowstone summer employees. Recreational facilities and services in Yellowstone National Park were discussed as well as general park regulations.

Due to budget constraints, the park technician position which was established for the summer of 1979 had to be cancelled in 1980.

The West District Naturalist coordinated the revisions to be made on the West Yellowstone area winter map with the Chamber of



Commerce and the U.S. Forest Service, and submitted them to the Chief Park Naturalist for incorporation into the "Winter Guide to Yellowstone Country."

On October 4, the West District Naturalist presented an illustrated program to members of the Montana Snowmobile Association during their annual convention which was held in West Yellowstone.

As we enter the 1980-81 winter season, the Yellowstone National Park Travel and Information Center is again in operation. Arrangements and services provided are approximately the same as the previous winter except that the audio-visual room is being used by Clyde Seely, the building owner, for his Yellowstone Tour and Travel business office.

Madison Junction: During the 1979-80 winter season, the Warming Station continued to be a very popular stop. Maps, current road conditions, weather, and general information were posted for public use.

The Interpretive Division paid 50% of one seasonal ranger position in the Madison area again this season. The assignments included information contact duty at the Warming Station as well as road patrol. This arrangement works very well and offers a special service to the visitors as they stop at Madison Junction.

The Warming Station structure was moved to Old Faithful for the summer and set up beside the rangers' backcountry management trailer. Maps and literature were posted in it to aid backcountry users in planning their trips. It was helpful to those seeking information during periods of the day when the backcountry office was closed.

The Explorer's Museum was very popular again this summer. Since this facility is not manned, the exhibits continue to receive greater wear and tear than in the manned facilities. All of the excessively worn black and white exhibit components were replaced this summer. Progress is being made to replace the two large color reproductions.

The concrete bases to the benches behind the Explorer's Museum were crumbling apart and were replaced in mid-summer.

Old Faithful: The operation at Old Faithful went exceptionally well throughout the entire year. The program ran smoothly and morale remained high.

The 1979-80 winter staff consisted of three GG-5 park technicians with regularly scheduled assistance from the West District Naturalist. Visitor Center hours were from 9:00 a.m. to 4:30 p.m., and 8:00 p.m. to 9:30 p.m. daily.



Guided walks in the Upper Geyser Basin were offered daily at 10:30 a.m. and 2:15 p.m. Each evening a slide talk was presented in the visitor center lobby at 8:30. Guided snowmobile tours were offered on Saturdays, but very little interest was shown. For the winter, visitor center attendance was 12,336. A total of 815 visitors enjoyed the 129 Geyser Hill walks, and 4,486 attended and 91 evening programs. Only three guided snowmobile tours were given, with a total of 12 individuals on seven snowmobiles participating.

The low level, temporary ceiling of wood framing and styrofoam batts in conjunction with the wood burning stove performed very well. The lobby was cool in the morning, but warmed up quickly after the stove was kindled and remained within comfortable limits throughout the day. No attempt was made to heat the auditorium, but setting up chairs and the projection equipment in the lobby for the evening program did not pose a problem. The greatest sacrifice was that the movie, Yellowstone: A Living Sculpture, could not be used.

The low ceiling was left in place throughout the summer as there were several days in June and again in September when a fire was needed for comfort. Also, possible damage to the ceiling components was avoided by leaving them up.

The visitor center closed on the evening of March 17 with the closing of the Snowlodge. Road opening started immediately on the west side of the park and the visitor center reopened on March 28 to visitors coming in by wheeled vehicles. Budget limitations did not allow the hiring of seasonal park technicians until early May. During the interim, the visitor center was operated by the West District Naturalist with the aid of Volunteers-In-Parks, Ann and David Cordero, and Robert "Marty" Craybill. Without their help the job could not have been accomplished.

The summer staff consisted of three GG-4, nine GG-5, and one GG-6 park technicians. Frank Balthis served very capably as the seasonal supervisor in the GG-6 position. The Student Conservation Aid who was scheduled to come cancelled at the last minute due to a family emergency.

The GG-4 employees who were new to Yellowstone were hired one week prior to the formal training period to enable them to begin familiarization with the Old Faithful area. This proved very beneficial to them personally and to their performance.

During the early spring period, two audio-visual programs were developed for the newly purchased Kodak Audio-Viewer. They





dealt with thermal geology and Yellowstone's bears. They were used in substitution for the movie, Yellowstone: A Living Sculpture and were well received by the public.

Due to budget constraints, the conducted activities were not offered until June 15. In like manner, most interpretive services were cancelled after September 6. The objective was to reduce services during spring and fall in order to provide a full program during the summer. One exception was that the visitor center closed at 7:00 p.m. throughout the summer rather than the usual 9:00 p.m.

For the season, approximately 601,800 visitors entered the visitor center, 181,244 attended the 3,042 audio-visual showings, 12,809 participated in the 409 guided walks, and 33,859 came out to the 232 evening slide programs.

In addition to the regularly scheduled events, the West District Naturalist and various members of the Old Faithful naturalist staff met with several special groups and led discussions or gave guided tours.

The boardwalk in the Geyser Hill section of the Upper Geyser Basin was completely rebuilt this summer. The new walk follows the same alignment as the one removed.

Observations of thermal features and data collection by the seasonal naturalists and Volunteers-In-Parks were more closely coordinated this year, by Park Geologist, Rick Hutchinson and seasonal Park Technician, T. Scott Bryan. VIP John Railey again compiled precise data on the eruptions of Old Faithful Geyser beginning in early May and continuing through mid-October.

Several of the walk lights between the Old Faithful Visitor Center and the east parking lot were broken this summer by vandals. Also, several signs were either damaged or taken.

As the year closed, budget constraints continued to impact the operation. Replacement photos for the winter wayside exhibits were done in black and white rather than in color, and the winter staff of interpretive park technicians was reduced by 40 percent. Also, the free hand-out literature is being distributed more conservatively. YACC and student intern personnel are being used to help maintain critical services.



South District (General): South District Naturalist Frank Walker accepted a transfer to Carlsbad Caverns National Park the 1st of November. Assistant Chief Park Naturalist John Tyers was named to assume the additional duties of supervising the South District Interpretive program.

The winter interpretive program at Canyon and West Thumb continued to be emphasized and expanded successfully during the 1979-80 season.

The 1980 summer season was very successful and a full range of interpretive services was offered. Total visitation for the year was up 6.6% over last year. It was a chaotic year dealing with the district budgets. A constant series of budget cuts and adjustments due to inflation, absorption of additional operating costs and increased salary rates reduced the overall budget and thus the total interpretive services.

The staffs at Canyon and Grant were both reduced by one naturalist each, but the staff at Fishing Bridge was increased by one. There was a total of 21 seasonal naturalists in the district; 1 subject-to-furlough assistant district naturalist, 1 Student Conservation Aid, and 2 YACC corpsmembers. Of the 6 new interpreters, all were highly recommended for rehire in the 1981 season except one. Out of 24 FY-80 district goals, 15 were 100% completed, 3 were 50% or more completed, and 6 were either dropped or very low in priority. Some of the major accomplishments included development and establishment of a new "wooden" warming hut at Canyon, additional improvements and rehabilitation of the West Thumb Ranger Station as a winter contact station, development and printing of a ski guide to the Canyon area, use of Lake Biology room in Fishing Bridge Visitor Center as an AV room for a program on safety when viewing wildlife, completion of Canyon Visitor Center interpretive story, completion of handicapped access to the Fishing Bridge Visitor Center, and installation of a separate YLMA sales facility for Canyon Visitor Center.

Canyon: The winter program at Canyon is now an established activity after several years of experimentation. In the 1979-80 season, 56 guided Canyon Rim snowmobile tours were offered to 728 visitors, and 7,311 visitors used the Canyon Warming Hut as compared to 7,321 the year before.

The new warming hut facility has proven to be an effective one and the snack bar provided by TWA Services has been well received by the visiting public.



Mike Sutton, Canyon winter park technician, offered 1:00 p.m. guided tours and provided roving interpretive services around the Canyon Rims, Hayden Valley, up to the Caldera Overlook, and on the roads leading to Canyon. He was assisted by Mary Wunderlich, a YACC member who has proven herself to be a very capable naturalist and resource person.

The Canyon Visitor Center was open from May 17 until October 31, 1980. Visitation in the visitor center was 300,061, as compared to 453,321 last year. This was a decrease of 153,260, or 33% from the previous year.

The great number of visitors daily created a heavy demand for interpretive service on the Canyon Visitor Center information desk. Unfortunately, due to a lack of regular National Park Service personnel, we have had to enlist assistance from one Student Conservation Aid, one YACC member, and a number of Volunteers-In-Parks. A minimum of two more summer interpreters is needed to meet these heavy demands for interpretive service.

An average of 25 visitors went on one of the 382 Canyon Rim Walks offered this past summer, up .09% from last year. The all-day hike up Mt. Washburn drew an average of 28 for each of the 56 hikes offered. Over 17,645 visitors attended the evening slide programs at the Canyon Amphitheater despite the fact that the Canyon Campground was closed for the summer due to lack of funds.

Plans are still underway to renovate the exhibits in the Canyon Visitor Center by replacing the present 20-year-old exhibits with a relief model and accessory devices to tell the Caldera story of Yellowstone. It is felt this theme is more appropriate and should be told at the Canyon Visitor Center.

Lake/Fishing Bridge: The Fishing Bridge Visitor Center was open daily from June 1 to September 13, 1980, with a total of 122,352 visitors, an increase of 5,602, or 5% from the previous year. Despite budgetary cuts in personnel, we have been able to retain the ever popular Pelican Creek and Storm Point guided walks. Over 73,181 visitors attended the evening campfire programs presented at Bridge Bay and Fishing Bridge Amphitheatres. Due to the reduction in personnel, we again for the second consecutive year were not able to present evening programs in the Lake Hotel. This is a popular activity for the hotel crowd who would not otherwise be able to attend outdoor programs. The traditional architecture and rustic look of the Fishing Bridge Visitor Center makes it a popular facility for this natural park.

Two new interpretive programs were tried at Fishing Bridge this year. These were Sulfur Hills Exploration and Midsummer Magic.



The variety of evening program topics offered at Bridge Bay and Fishing Bridge Amphitheaters continued to be very popular.

A special study was conducted this past summer at Mud Volcano by Park Technician Doris Tai. As partial fulfillment for her Masters Degree from Idaho State University, Doris conducted a survey to determine the best interpretive media to use for this nature trail - pamphlet verses trail markers. Her conclusions indicated a combination of both, was actually what the public wanted. They enjoyed and valued the trail markers but also wanted the self-guiding trail leaflet more for a souvenir.

Grant Village: The Grant Village Visitor Center opened June 7 and closed September 13, 1980 with a total of 90,960 visitors. A regular schedule of conducted walks and roving assignments was maintained in the West Thumb Basin, and evening programs were presented nightly at the Grant Village Amphitheater. Due to the reduction in personnel, evening programs were presented only twice a week at the Lewis Lake Campfire Circle.

Several new programs were tried at Grant Village this past summer. Birds of Grant Village was a two-hour birdwalk offered once a week early on Saturday mornings. Lakeshore Thermal Walk was another early morning two-hour walk offered on Wednesday of each week. The Sunset Nature Walk was offered only on Saturdays in late evening for a few hours. Predator/Prey Relationships took place in the afternoon once a week on Fridays for two hours. All of these special programs helped to provide variety in the program, were a challenge for the seasonal interpreter, and were interesting to experimentally determine the type of programs visitors most like.

West Thumb: The old abandoned West Thumb Ranger Station was again used during the winter season as a warming hut and contact station. This building was improved by opening additional rooms, adding benches, more exhibits, a larger wood stove, and performing renovation. Two YACC members, Jeannine Wagner and Sam Crane are offering contact service and guided thermal basin walks at West Thumb during the 1980-81 winter season. This facility is highly praised by the visiting public, it fills a need, and should be improved next year to include some type of food and beverage dispensing facility. The informal guided tours of the West Thumb Geyser Basin were very popular with both snowcoach passengers and snowmobilers.

North District: North District interpretive operations focus on Mammoth Hot Springs, Norris Geyser Basin, and the Tower Falls area. Continuing a trend of several years, the number of seasonal naturalists declined again this year.





From January 1 to May 1, interpretive services in the district included occasional guided basin walks in winter at Norris presented by a volunteer stationed at Canyon, special walks and talks in the Mammoth area for visiting groups (6), two advertised ski trips in the Tower area, and the Wildlife Camera Safari. The Safari, going from Gardiner to Cooke City used CB radios to discuss wildlife management and other topics, was offered 11 times (124 people), with adverse weather and the price of gasoline affecting attendance. All members of the Naturalist Division at Mammoth participated in this program.

Mammoth: During the winter and early spring, the seasonal naturalist supervised two YACC members in staffing the Albright Visitor Center at Mammoth. This remains the only visitor center in the park open year-round. A large number of small projects and several large ones such as reorganization of the district slide file occupied these employees and visitation to the building was low, reaching the greatest number on weekends.

The summer naturalist staff included a seasonal supervisor (also serving as assistant district naturalist, one subject-to-furlough GS-5, one seasonal GS-5, one seasonal GS-4, one GS-4 cooperative education student, two members of the YACC, one Student Conservation Aid, and one student intern. This varied staff was able to present a large number of different programs, including evening talks at Indian Creek Campground and the Mammoth Motor Inn and living history tours of Fort Yellowstone twice weekly. Attendance at 126 evening talks and the tour totalled 8,094. Daily walks on the lower terraces were instituted (120 given, 3,095 people) and interpretive roving on the boardwalks was increased and scheduled to coincide with periods of heaviest use. Roving also contributed significantly to protection of the formations, vegetation, and wildlife from damage or injury. Naturalists initiated the citing of several offenders. The system of signing on the Terraces was redesigned to reduce the number of signs, increase accuracy, and enhance both visitor safety and protection of the features. The Maintenance Division's boardwalk crew rebuilt extensive sections of the Terrace walks at the Naturalists' request, rerouting walks to avoid interference with Minerva's runoff, providing a connecting walk for the convenience of visitors, and replacing deteriorated sections. Jupiter and Minerva Springs remained the most spectacular. Activity at last year's "new spring" lessened. New Highland Spring was quite active for much of the summer.

During the year, the visitor center theater was used for a variety of special presentations by visiting speakers. Former Superintendent Lon Garrison spoke on the "Mather-Albright Years." An Israeli park manager discussed parks in the Sinai.



Mike Sutton toured the audience through Australia's parks. A variety of NPS Regional and Washington Office staff and park managers from several foreign countries toured the visitor center by arrangement with the Superintendent's Office.

During the year, the last work on the building renovation, consisting of minor repairs, was completed. On May 10, an intoxicated individual damaged all but two of the building's outside doors and succeeded in breaking in through the front door. The building alarm and a call from neighbors alerted the rangers, and the intruder was arrested inside. There was no damage to the interior of the building.

During the summer, each member of the naturalist staff gathered data on hot springs assigned to him or her and submitted a report at the season's end.

After September 30, the Mammoth staff consisted of one (at times two) members of the YACC, a full-time volunteer, and assistance from the rangers' subdistrict clerk. During 1980, the visitor center was open 365 days.

Norris: The 1980 staff at Norris included two GS-5 seasonals, two days per week of a GS-5 shared with Canyon, and one SCA. The attempt to supervise this operation from Mammoth did not work well because of mileage restrictions, excessive demands on the district supervisors, who were needed in the regular Mammoth area interpretive program, and difficult personnel problems with the SCA. During the second half of the summer, the naturalists were presenting all the programs, up to four per day, more than any other naturalists in Yellowstone. As one of Yellowstone's prime attractions and a place needing staff for both its protection and the visitors' safety, Norris badly needs a larger staff. Cooperation between divisions at Norris was exemplary in this situation, with people readily helping with each other's responsibilities.

Eighty-seven campfire programs, including a living history Mountain Man presentation, were given to 7,348 people in the Norris campground. Some of these were followed by an astronomy program. On moonlit nights, nine "Moonlight Special" walks were led in the geyser basin with 341 people attending. Weekly hikes were led to Sylvan Springs and Artist Paint Pots. During the first part of the summer a weekly hike went to Monument Geyser Basin and in the latter half of the season, to Hundred Springs Plain. These programs attempt to provide a high quality experience, taking the visitors to places they would be unlikely to see on their own. Visitor comments support our belief in the worth of providing these activities. There were 25 hikes with a total of 558 visitors attending.



Four and sometimes five walks per day were led in Norris Geyser Basin itself. Between July 1 and September 1, 1980, 288 walks were given with 14,255 visitors attending. During June, approximately 60 walks to 1,800 visitors. Approximately 268,200 people visited the Norris Museum (manned part of each day).

Throughout the summer, Echinus Geyser erupted on a very regular schedule. Two hundred and sixteen talks were presented to 7,924 people viewing these eruptions. Africa Geyser and others in its vicinity erupted regularly. There were no eruptions of Steamboat Geyser. Once again, a series of temporary changes took place during September in the eruption cycles, turbidity, water levels, and temperatures of the features at Norris. Seasonal Naturalist Fred Hirschmann prepared an annual report documenting the condition of the thermal features.

Tower: As last year, the naturalist staff at Tower consisted of one subject-to-furlough employee, Bill Baker. Bill regularly presented 4 different evening programs (44 total) to 2,377 campers at the Tower Campground. He led 391 people on 20 all-day hikes to the "fossil forest" on Specimen Ridge, 217 on 20 hikes to Lost Lake, and performed many hours of roving duty around Calcite Springs Overlook and Tower Falls. Special walks were led for several groups. In August, Dr. William Fritz led members of the park's naturalist staff on a hike up Amethyst Mountain to learn about the research he has been doing on the "fossil forests" for some years.

Historian and Yellowstone Park Archives: The North District Naturalist also serves as park historian and archivist and supervises the curator and librarians. During the year the historian answered 65 requests for historical information which required research, and a large number of smaller requests. Topics ranged from a short history of rangers in Yellowstone to a report on the building of corduroy roads and research on the work of naturalist/writer/exhibit planner, Carl Russell. Many requests came from outside the park, from both professional and amateur historians, from historical societies and other NPS offices. The interest in Yellowstone's history is clearly widespread. Many information or writing requests also came from the park staff, including the Superintendent's Office, the Ranger Concessions, Naturalist, and Maintenance Divisions. Information was supplied to support management decisions concerning campground closures and work on historic structures.

The historian also participated directly in interpreting Yellowstone history to the park visitors, regularly presenting three different evening campfire programs during the summer months and one special talk at Old Faithful.





Selected records of the Yellowstone Park Company, included in the Government's purchase of company assets, were moved to the archives from storage in Gardiner. NPS Archivist Dick Russell came from Harpers Ferry for one week to assist in the sorting of additional company records and in a backlog of Yellowstone National Park files. The historian presented a brief session to employees attending "Orientation to Park Operations" and in other, less formal ways, sought to increase the Yellowstone staff's awareness of the archives' existence and purpose. The result has been a flow of material to the facility from offices in addition to Mails and Files. Indices were written to improve access to several of the more useful files stored in the archives. The historian attended two weeks of required National Archives and Records Service training in Washington, D.C., and became familiar with Yellowstone Park material in the National Archives while there. In August, a representative of the National Archives inspected the facility at Mammoth.

Library: The library in the Albright Visitor Center is one of Yellowstone's great assets. The Yellowstone Library and Museum Association pays the salaries of two part-time librarians and buys all books and periodicals. The total number of volumes in the library reached 9,550 in 1980, with 56 volumes purchased that year, at a cost of \$600. Forty-four other volumes were added at no cost. The library stocked 60 periodicals. Many additions were made to the reprint and pamphlet files, which now contain between 10,500 and 12,000 items.

Throughout the year, with the exception of the Christmas period, the library was open 29½ hours per week. Patrons during the summer months averaged 110 per month. Library hours were included in the widely distributed "Special Activities" brochure and approximately 1/3 of the library's patrons were park visitors rather than staff. During the winter months, patrons averaged 30 per month, exclusive of the park historian, curator, and visitor center staff, who make daily use of the library.

The librarians also sent out and obtained books on inter-library loan and answered inquiries for information concerning the park.

The year saw a small but steady flow of donations to the library, particularly of books from earlier in this century. The high point was the addition of an 1883 manuscript diary of a trip to Yellowstone, with many vivid pictures of the visitor's experience in the Yellowstone of a different era. The librarians and park historian actively searched rare books and catalogues for additions to this important resource.

Museum Collections: The project of relocating and properly storing the parks museum collections in the new Albright Visitor





Center facility is about 80% completed. Environmental conditions in the new storage area were monitored with a hygrothermograph throughout the year and temperatures and humidity were found to be well within the accepted limits set by most conservators.

Exhibits - Waysides: Rehabilitation of wayside exhibits continued to consume large amounts of time and money. Waysides located in high-use areas deteriorate noticeably after one season of use. Those in other areas survive two to three seasons before requiring attention.

The following cast aluminum waysides were rehabilitated--Gibbon Falls, Hayden Valley grizzly, Hayden Valley geology (all done by Bill Chapman), and Tower Falls and two Calcite Springs overlook panels were done by the curator.

Exhibits - Visitor Centers/Museums: Canyon Visitor Center has 37 black and white photographs, including the large panel at the entrance to the exhibit room, were replaced with new prints. A major cause of deterioration at Canyon is the dry atmosphere in conjunction with visitor touching, scratching, scribbling, etc.

Norris Museum - The breezeway map was replaced with an updated version including corrections and additional information on walking distances. The color scheme was changed to a more attractive combination.

Madison Museum - Twenty-five black and white photographs (including reproductions of early maps, Scribner's articles, etc.) were replaced. Original negatives for many exhibit panels were unavailable so photographs from books were substituted. A color reproduction of a Moran oil painting of the Canyon was ordered to replace the existing vandalized panel. All panels were inspected for weakness and additional screws were installed where needed. Exhibit photographs were inspected at the end of the season and many "new" photographs looked as if they had never been replaced.

Publications - Four editions of a Special Activities leaflet were produced by the curator. The format was expanded to include concession facilities, eliminating a need for the Yellowstone Explorer (cost was also a consideration).

Yellowstone Library and Museum Association: The Association's income was approximately the same as the previous year, although the number of visitors increased about 9%. A new sales facility was installed in the Canyon Visitor Center which stimulated sales there, but the Service curtailed some hours of operation at the Old Faithful Visitor Center which decreased sales. Final figures on Association operations and donations to the NPS are not available at this time due to the annual audit being delayed.



Two major publications were produced: Bears of Yellowstone, by Paul Schullery, and Snow Country, by Stephen Fuller. New books on Yellowstone fishes, Norris Geyser Basin, and Yellowstone waterfalls are in preparation.

Matching funds were provided to Grant-Kohrs National Historic Site for an oral history project; the Montana Committee on the Humanities matched them. Funds were obligated for the construction of a large model of the Yellowstone terrain, as a first step in revising the exhibits of the Canyon Visitor Center.

The Board of Directors created a new category of membership so that any person can become a non-voting member with annual dues of \$5.00. One member of the Board, Lloyd Schermer, resigned without being able to attend any meetings. George Toney was elected to fill the vacancy. Two other members, Wallace Dayton and Trevor Povah, left the Board when they reached the limit of terms, and have not yet been replaced.

A major activity of the Association was operation of the Yellowstone Institute, described elsewhere in this report. It had a generally successful season, aided by funds from the Department of Energy. Director Tim Clark resigned in October and was replaced by Richard L. Reese who has many plans for diversifying and expanding the Institute.

Big Hole National Battlefield: Yellowstone continues to provide staff and technical assistance to Big Hole National Battlefield with major maintenance projects, interpretation, resources evaluation, and planning.

Status of Planning: A new parkwide Interpretive Plan was begun to document all existing media and to provide overall coordination and improvements of non-personal facilities. The Rocky Mountain Regional Office participated in the initial preparation of the plan through the assistance of Interpretive Planner John Reed. It will be completed by the park staff in 1981.



### III. RESOURCE MANAGEMENT AND VISITOR PROTECTION

- A. General: This was the first year that the Old Faithful District operated financially independent of the West District under the new organizational plan. Nine new rangers entered the division in 1980, including Thomas O. Hobbs, the Chief Park Ranger. By the end of the summer, we had only one permanent vacancy. Lynn Williamson and Dale Nuss retired in 1980, both leaving Yellowstone after long years of dedicated service.

The employees of Yellowstone were saddened and shocked at the death of Duane P. McClure in May of this year. Duane was the Grant Village Area Ranger, and had been stationed in Yellowstone for over six years. He disappeared on a canoe trip on May 22nd, and despite extensive search efforts, was never found.

The staff was composed of the following:

#### 1. Supervisory - Permanent and Subject-to-furlough

- a. Thomas O. Hobbs - Chief Park Ranger
- b. Norm Bishop - Resource Management Specialist
- c. Dale Nuss - Forestry, Fire and Bear Management Specialist
- d. Bob Mihan - Law Enforcement Specialist
- e. Tom Black - Air and Emergency Operations Specialist
- f. John Lounsbury - Canyon District Ranger
- g. John Donaldson - South Entrance Area Ranger
- h. Tony Sisto - Old Faithful Area Ranger
- i. Bob Mahn - Lake Area Ranger
- j. David Mihalic - Old Faithful District Ranger
- k. Stewart Orgill - Gallatin Area Ranger
- l. Jesse Rivera - North Entrance Area Ranger
- m. Judy Kuncel - Madison Junction Area Ranger
- n. Doug Barnard - West District Ranger
- o. Terry Danforth - North District Ranger
- p. Dave Spirtes - Tower Area Ranger
- q. Marv Miller - Lamar Area Ranger
- r. Dunbar Susong - Bechler Area Ranger
- s. Tim Blank - Lake District Ranger
- t. Gerry Mernin - Snake River District Ranger
- u. Norma Turner - Communications Center Supervisor
- v. Randy Fehr - Mammoth Area Ranger
- w. Pat Ozment - East Entrance Area Ranger
- x. Jim Sweaney - Supervisory Forestry Technician

#### 2. Non-Supervisory - Permanent and Subject-to-furlough

- a. Helen McMullin - Staff Assistant
- b. Evelyn Ringsby - Management Assistant
- c. Laura Bittner - Clerk-Typist, Visitor Services
- d. Sandi Fowler - Park Technician, Resource Management
- e. Ruth Cothrun - Chief Ranger's Secretary



- f. Kathy Smyth - Clerk-Typist, Resource Management
- g. Rick Hutchinson - Park Geologist
- h. Gary Dunning - Smokejumper
- i. Jim Hotchkiss - Animal Packer
- j. Mary Ann Straiski - Communications Operator
- k. Michael Murray - Communications Operator
- l. Jeanie Fehr - Communications Operator
- m. Ray Pugsley - Communications Operator
- n. Don Ritchey - Communications Operator (Fire dispatch, 1980)
- o. Allison Busby - Clerk, North District

### 3. Supervisory Seasonals

- a. Chuck Bolle - Forestry
- b. Chet Cantrell (STF) - Old Faithful
- c. Bill Crum - Northeast Entrance
- d. Don Henderson - Fire Protection
- e. Les Herman - Helicopter Operations (Mammoth)
- f. Gerry Jones (STF) - Grant Village
- g. Chet Keller (STF) - Madison
- h. Bud Ross (STF) - South Entrance
- i. Denman Smith (STF) - Lake
- j. Karl Striby - Helicopter Operations (West Yellowstone)
- k. Ted Weight (STF) - North
- l. Mike Williams - Tower
- m. Doyle Yaney (STF) - North

4. Non-supervisory Seasonals: A total of 110 seasonals with 37 new people in 1980, plus 1 volunteer, 1 student intern, 8 Student Conservation Aids and 8 Young Adult Conservation Corpsmembers. As compared with 1979, this was a reduction of 28 seasonal personnel for the division.

- B. Law Enforcement: United States Magistrate James W. Brown withdrew from his duties in early July, and was replaced shortly thereafter and until late September by visiting magistrates appointed on a weekly basis. Mr. Brown retired effective December 31, 1980, following a 28-year tenure in this park.

Charles Cox assisted Yellowstone throughout the summer as an intern from the United States Attorney's Office. He did an outstanding job for both agencies.

Two 40-hour refresher courses were held, and a total of 76 commissioned rangers were trained, including rangers from other Park Service areas. A Board of Review was held as a result of an accidental firearms discharge that was not job related. Following recommendations of this Board, rules covering the use of the indoor range were tightened, and 12 supervisory rangers attended a Federal Bureau of Investigation rangemaster course to become more aware of safety considerations in regard to the use of firearms.





Rangers at Old Faithful investigated and made a case against three concessioner employees from Idaho that resulted in prison terms for each of them. Approximately \$40,000 worth of property stolen in Idaho and Yellowstone was recovered.

A total of 2,289 Case Incident Records were reported, 1,028 Violation Notices were issued (22 less than 1979), and a total of 434 Motor Vehicle Accidents were filed (39 more than 1979). Fifty-two cases were heard before United States Magistrates within the park, and four cases and twelve complaints for warrants were filed before Magistrate Day in Cody, Wyoming. Since September, it is necessary to travel a distance of almost 500 miles to take a case to Cody.

- C. Regulations: Law Enforcement Policies and Guidelines (NPS-9) were revised and signed by Acting Deputy Director Daniel J. Tobin, Jr. on May 9, 1980. These policies and guidelines are to be followed Servicewide.

Changes in fishing regulations proposed for 1980 were not published in the Federal Register. Delays at the Washington level and controversy over changing to catch-and-release on Soda Butte Creek called for a season's deferment. Proposed changes for 1981 include the 1980 proposals with two modifications. Catch-and-release was imposed on Soda Butte Creek, with a two-fish limit on rainbow trout, brown trout, and brook trout. Cache Creek was left open to keeping two fish. The number of letters received (44) from persons interested in the changes were almost equally divided pro and con, but 2 of the pro letters represented a total of 67,000 members and 450 clubs or chapters of Trout Unlimited or the Federation of Fly Fishermen. Most of the con letters were originated locally.

- D. Tort Claims: During 1980 there were 24 claims filed. Damages awarded were minimal. The Ford claim is still pending.
- E. Weather Conditions: December of 1980 was abnormally warm. The average temperature at the Mammoth weather station was  $6.1^{\circ}$  above the normal of  $22.1^{\circ}$ . The average temperatures for the year were  $40.76^{\circ}$  at Mammoth,  $33.3^{\circ}$  at Old Faithful, and  $34.9^{\circ}$  at Snake River. The maximum temperature for 1980 was  $80^{\circ}$  on July 23, 1980, at Mammoth. The minimum temperature was  $-43^{\circ}$  on January 28 and 29 at Old Faithful.

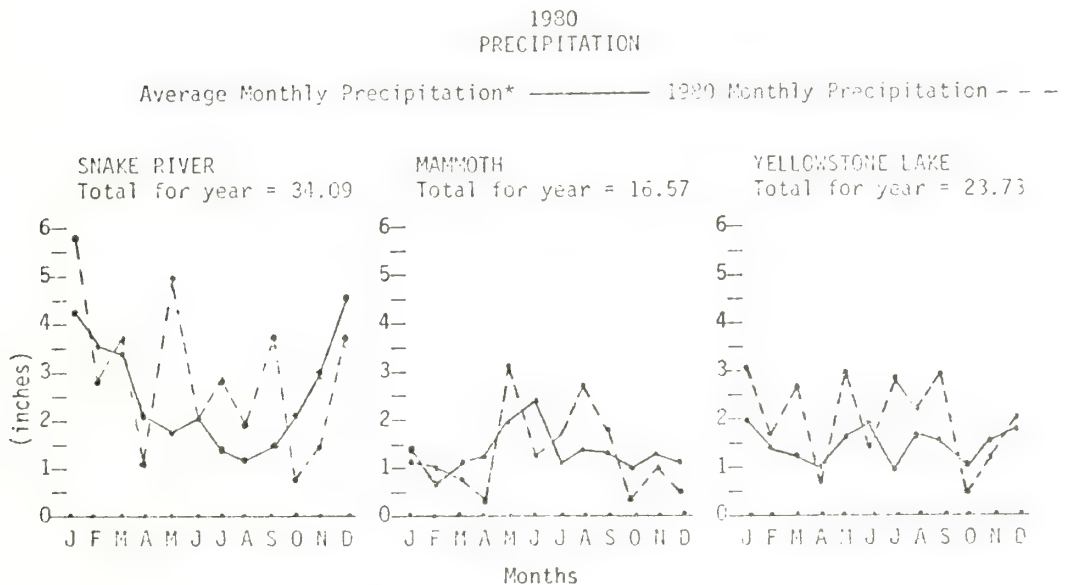
The yearly precipitation measured 16.57" for Mammoth, .02" below normal; 18.5" for Tower Falls, .64" above normal; 23.73" for Yellowstone Lake, 4.02" above normal; 31.33" for Old Faithful; and 34.09" at Snake River. The greatest single precipitation day was March 16, when Old Faithful had an overnight snowfall



of 19" (1.67" of precipitation).

Spring runoff occurred in mid-April and May. Many snow survey courses did not have enough snow on May 1 to get a valid sample, with others ranging 26% to 50% of normal water content, with Lewis Lake at 79% and Northeast Entrance at .06%. On January 1, most stations ranged from 40% to 50% of normal, with East Entrance at 95% of normal. On February 1, courses ranged from 52% to 80%; on March 1, 60% to 90% of normal; and on April 1, most courses ranged from 65% to 97% of normal with the exception of 114% at Lake and 139% at East.

Generally, the 1980 winter was a mild one with a cold stretch the end of January.



\*From 1977 Climatological Studies of Yellowstone, Department of Atmospheric Science, University of Wyoming.

## F. Fish and Wildlife Management

1. United States Fish and Wildlife Service Technical Assistance Project: The Yellowstone fishery was monitored for the eighth year by the Volunteer Fisherman Report (VFR) cards in conjunction with park fishing permits. During 1980, 148,000 fishermen fished over 352,200 angler days in the park. These figures represent a substantial increase over 1979. The increase was generated by a slight increase in total fishermen and a large increase in the length of the park visit. When visitors stay longer, they fish longer and fish more waters.



Yellowstone Lake cutthroat spawning runs were enumerated on Pelican and Clear Creeks and the annual gillnetting operation on Yellowstone Lake was accomplished. The 1980 data indicated that the average size of trout in the population is still increasing. This is a major goal of the regulation.

Preliminary baseline limnological data was collected monthly from Lewis, Shoshone, Heart, and Yellowstone Lakes due to their position in the natural fire zone. Limnological data collections were increased on Heart Lake after the Heart Lake fire in 1979 and continued in 1980. A sampling station was also set up in 1979 on Beaver Creek, a tributary to Heart Lake, after the fire.

The native and threatened species restoration program continued with stream surveys on Clear Creek, Canyon Creek, and Hellroaring Creek. The cooperative program with the National Park Service, Fish and Wildlife Service, and Wyoming Game and Fish Commission started in 1977 and continued through 1980. Approximately 400 adult and subadult Sedge Creek cutthroat trout were collected and flown to a previously fishless section of the Yellowstone River in the Teton Wilderness south of Yellowstone National Park.

Fifty adult Firehole River rainbow trout were flown to Texas to start a rainbow brood stock for the Texas Department of Fish, Wildlife and Parks.

A stream Habitat Quality Index study was conducted on Slough Creek and Cascade Creek in Yellowstone National Park in 1980. The project was funded by the Office of Biological Services (OBS), U. S. Fish and Wildlife Service in Fort Collins, Colorado. The project consisted of population estimates by two different methods — Habitat Quality Index measurements by two different methods and instream flow measurements by one method on four sections of Slough Creek and three sections of Cascade Creek. The population estimates were made by Jack Griffith of Idaho State University by the scuba method, and one by project personnel using the electro fishing capture/removal method. The Habitat Suitability Index (HSI) was done by Bob Raleigh, OBS, Fort Collins. The Habitat Quality Index was done by Alan Binns of the Wyoming Game and Fish Commission. The instream flow measurements were made by OBS of Fort Collins, Colorado. The purpose of the project was to provide a comparison of methods for population estimates, habitat indices, and to provide data for calibration of the HSI under development by OBS. The project was a cooperative effort with the National Park Service, Idaho State University, Fish and Wildlife Service, and Wyoming Game and Fish Commission. The project collected valuable data on Slough Creek and Cascade Creek, and will hopefully provide a stream survey method to be used on other streams in Yellowstone National Park.



The backcountry lake survey program, begun in the early 1960's, completed four lakes in 1980, a survey mark on two streams, and started work on two others.

A 195-page Annual Technical Report for the Aquatic and Fishery Management Program in Yellowstone National Park was the result of data collected during 1979. The report offers an in-depth view of all facets of the park program.

2. Wildlife Management: Elk hunting in Montana Hunting District 313 north of Gardiner and east of Corwin Springs was regulated during the 1979-80 season to reduce numbers of the migratory segment of the northern Yellowstone elk herd. An estimated 456 elk were taken by hunters in District 313 based on 1,000 permits issued and 777 questionnaires returned. The Montana Department of Fish, Wildlife and Parks offered 2,550 permits for the 1980-81 season for District 313 in an attempt to take 1,200 head.

There were 12 grizzly, 9 unknown species, and 13 black bears observed in developed areas in 1980. Backcountry observations totaled 499 grizzly, 123 unknown species, and 391 black bears.

One backcountry bear-human encounter resulted in minor injury to a female YACC Corpsmember when she was charged and swatted on the leg by a sow accompanied by three cubs. Nine other confrontations occurred--these involved six grizzly bears, one unknown, and two black bears. Damages were reported from three grizzly, five unknown, and one black bears.

Four grizzly bears were trapped in developed areas and relocated to remote sections of the park. One 200-pound male grizzly was destroyed at Lewis Lake Campground August 4 after having been trapped and relocated July 12 and July 25. Two bears, one grizzly and one black, were killed by automobiles. Two grizzly bears were observed to have died of natural causes.

Several areas of the park were temporarily closed to public use to avoid bear-human encounters. These included Slough Creek backcountry campsites, Hellroaring Creek backcountry campsites, Cascade Lake-Observation Peak trails and campsites, trails leading to Mount Washburn, trails in the Sepulcher Mountain vicinity, a campsite in the Bechler River area, two campsites on the south boundary, one at Trail Creek, two near Old Faithful, three on the South Arm, and one at Fawn Creek.

The Interagency Grizzly Bear Study Team trapped and radio-collared seven different grizzly bears during the 1980 season in the park. Fourteen other grizzlies were trapped outside the park but in the study area. One black bear was also trapped outside. The purpose for collaring the bears was to determine distribution, movement patterns and habitat use. The team located radio-collared bears a total of 397 times in the park.





Bison attempt to wander north from the park each spring. Because of lingering fears by adjacent states that bison might spread brucellosis, park policy is to prevent emigration of bison. As early as February 5, a herd of bison were seen in the Hellroaring Creek drainage. On February 24, a fixed-wing aircraft bison census flight showed 40 bison at Hellroaring Creek, and 82 north of the Yellowstone River at Tower Junction. The River Trail was barricaded. March 1, 6 bison crossed the high bridge over the Gardner River east of Mammoth. They and 4 more bison moved down Gardner Canyon from Mammoth on March 17 and were hazed back toward Mammoth by rangers on foot. The bison, including mature bulls, took the hazing amenably. Meanwhile, the River Trail was monitored, and occasional hazing was used to move bison upstream. This continued through April 11. By April 20, the bison appeared to be moving east of Blacktail Deer Creek. No bison were outside the park boundary at any time.

The winter conditions associated with the bison movement were snow depths at 70% to 80% of the 15-year average and generally mild temperatures. Depth and hardness of snow presented no real problem for foraging bison.

Some bison herd groups remained in the core winter range of Lamar Canyon to Junction Butte. Movements into Hellroaring Creek drainage are seen as part of the long-term "settling down" process following the reduction program of the mid-1960's. We anticipate more winter use of the lower elevation areas by bison as well as by elk. Bison historically wintered on Deckard Flats east of Gardiner and on down the Yellowstone Valley. Movement of bison does not correlate with population.

### 3. Threats to Park Resources and Backcountry Management:

Two former gold mines are being reactivated adjacent to the northern park boundary. One of these is four miles northeast of Gardiner, Montana at Jardine, and the other on Lulu Pass, three miles north of Cooke City, Montana. Potential water quality degradation of park streams (the Yellowstone River and Soda Butte Creek) constitute the threat to Yellowstone National Park. Milling and transportation of ore over dirt roads could also degrade air quality.

Extraction could begin as early as 1981 at the Homestake property at Jardine, and by 1982 at the Rancher's Exploration property at Lulu Pass. Rancher's Exploration is considering mill sites near Cooke City, according to newspaper articles. Tailings from the former McLaren mill site at Cooke City are presently yielding a lethal concentration of ferrous hydroxide that kills fish nearly to the park boundary that lies four miles down Soda Butte Creek.



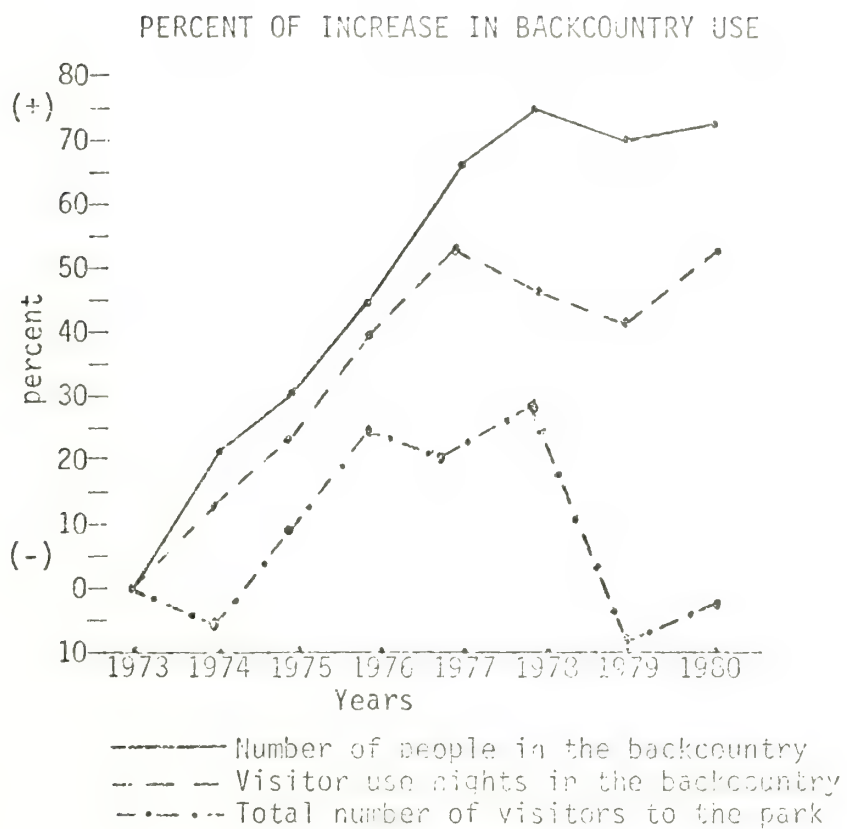
The Yellowstone River is known nationally as a blue ribbon trout stream. Soda Butte Creek produces moderately good native trout fishing in the park in spite of the pollution of the upper portion of the creek. Dilution by several other tributaries reduces the concentration of pollutants to tolerable levels at present. However, should the tailings of the McLaren site be disturbed, the concentration of pollutants could be increased to lethal levels in Soda Butte Creek as it flows into the park.

An intensive field inventory of geothermal features was undertaken by the park Geologist in the southwest corner of the park. This was done partly in response to the threat of geothermal development in the Island Park Geothermal Area southwest of the park. It was also in anticipation of the need for identification of significant geothermal features within 120 days of the passage of a proposed amendment to the Geothermal Stream Act of 1970. The park Geologist was assisted by a series of YACC members who produced the maps to supplement his descriptions, photographs, and collections. Field trips began July 14 and ended November 4.

- G. Wilderness and Backcountry Management: There were 24,010 people for a total of 54,874 visitor use nights using Yellowstone's backcountry during the 1980 season. Compared to 1979, the number of people using the backcountry remained near the same, but visitor use nights increased by 6.7%. The percent of visitors to the park using the backcountry was 1.2% in 1980, 1.3% in 1979, and .9% in 1978. The number of stock use in the backcountry in 1980 was up 22%; the number of parties using stock was up 21% and the total number of stock nights was up 17.4% compared to 1979.

The wilderness recommendation for the park was submitted in August of 1972, but as of 1980, has not been acted upon by Congress.





\*Using 1973 as the base year.



- H. Park Visitation: The park was open for public travel on the traditional May 1 opening date; however, some of the areas were accessible as early as April 1. The Beartooth Highway was open for travel by May 24.

Road closures for the winter began October 16 when the Beartooth Highway and operation of the Northeast Entrance were closed for the season. The East, South and West Entrances were closed on November 10, after the first snow storm. The road from Mammoth to Northeast and from Mammoth to Old Faithful and the West Entrance remained open to the public. The road between Mammoth and West Entrance was again closed to vehicular traffic December 1, and officially opened to snowmobile traffic December 19. Then, the road from the West Entrance to Madison was opened to vehicular traffic December 28 due to poor snow conditions on the road. Approximately 2,700 automobiles traveled between West Entrance and Madison between December 28 and December 31.

Annual park visitation totaled 2,018,852 persons for 1980. This total reflects an increase of 123,683 persons, or 6.53% over the 1979 season. Winter visitation (January through April, 1979 and November through December, 1978) totaled 157,840 persons. This total reflects an increase of 19.19% over the previous year during the same period.

Lost and Found Summary: The Visitor Services Office issued 1,933 found numbers to individual items located in the park. Of these, 489 items were either claimed or returned by mail for an approximate 25% return rate. One hundred eleven pair of eyeglasses which were donated to the Eyes for the Needy.

I. Entrance and User Fee Collections:

<u>Station</u>	<u>Summer</u>	<u>Winter</u>	<u>Golden Eagle Passports</u>	<u>Total</u>
North	\$ 87,760.00	\$ 2,324.50	\$ 20,000.00	\$110,084.50
West	239,205.50	14,282.00	43,140.00	296,627.50
South	34,803.00	3,618.00	7,540.00	45,961.00
East	158,432.50	1,029.00	34,920.00	194,381.50
Northeast	47,749.00	-	8,900.00	56,649.00
Mammoth CG	<u>-</u>	<u>298.00</u>	<u>-</u>	<u>298.00</u>
TOTAL	\$567,950.00	\$21,551.50	\$114,500.00	\$704,001.50





In addition to fees collected from Single Visit Permits and Golden Eagle Passports, 8,525 Golden Age Passports were issued free of charge to persons 62 years of age or older.

Campground fees were collected in 14 campgrounds (12 regular and 2 group campgrounds). The amount collected totaled \$433,406.12, a 13% decrease from the 1979 season.

J. Special Use Permits: The Visitor Services Office issued 24 Special Use Permits during 1980.

K. Central Communications Center Records Summary:

	<u>1978</u>	<u>1979</u>	<u>1980</u>
Employee Vehicle Registration	2,269	2,785	2,540
Visitor Identification Notices	510	366	319
Backcountry Permits Recorded	7,700	7,870	8,101
Number of People on Permits	24,201	23,839	24,010
Teletype Messages Sent on Law Enforcement Teletype System	3,284	2,065	5,247
NCIC Inquiries	1,632	2,065	4,841
Wrecker Requests	804	547	547
Law Enforcement Record Checks	4,163	4,129	7,611
All Points Bulletins	34	40	47
Field Investigation Cards Files	1,427	1,334	1,285

L. Fire Management:

1. Structure Fire: Fire Brigade Training and 276 inspections took place during the year. A concerted effort to update the park's structural fire plans was completed by mid-June. All developed area fire plans are current, functional and comprehensive.

TWA Services, Inc., Yellowstone Park Division assigned employees to live in strategically located rooms in the park's three major hotels at Lake, Mammoth and Old Faithful to function as fire monitors and key personnel if evacuation of guests became necessary. This proved very successful with the evacuation of the Mammoth Motor Inn and the Old Faithful Inn during the summer due to a steam leak setting off the alarms in the Mammoth Motor Inn, and a small bathroom fire at the Old Faithful Inn.



In both instances, the evacuations were quite orderly and completed without injury.

Progress continued with the installation of emergency lighting, stove top protection, smoke detection and alarm systems. Two ladder trailers and an oversnow sled with hose, pump, and fire apparatus were built in the park. Cabins at Fishing Bridge and the cafeteria building at Old Faithful were deliberately burned as a means of removal. There were 9 structure fires within the park, with a total loss of less than \$1,000 in property damage. A concession snowcoach was completely destroyed by an electrical/gasoline fire in mid-winter and shut-off valves were installed on all other snowcoach gas tanks. Two fire call responses were made to West Yellowstone and two to Gardiner in cooperative efforts with local fire departments. No injuries or fatalities were reported as a result of fire.

2. Wildland Fires: A very slow fire season was due to cool, wet weather throughout the summer. A total of 25 fires burned less than 5 acres. Only 10 fires were suppressed, and of the 15 that were allowed to burn, the Folsom Peak fire was the largest at 4.5 acres.

Assistance to other areas included dispatches to the Wasach, Deerlodge and Bridger-Teton National Forests, Big Bend National Park, Santa Monica Mountains National Recreation Area, and the Bureau of Land Management in Nevada. Two requests were not filled due to shortages of personnel or other priorities. Inter-agency assistance was not required in Yellowstone this year, and for the first time in several years, no smokejumpers were dropped on fires.

3. Helicopter Operations: A Bell 47G and an Allouette III were contracted for the summer from Helicopter Associates of Mesa, Arizona. Only 10.6 hours were attributed to fire management due to the slow season. There were 11 search and rescue operations, 4 bear transplants, and 3 bear trap transports. Two other helicopters were brought in for short-term use on searches. Total use of the 4 helicopters was 278 hours. This was the first year that all search and rescue costs were absorbed by the individual park areas. This cost Yellowstone National Park \$23,720.

Outside agencies contributed 195 hours toward guarantees.

#### M. Forestry Program:

1. Fuels Inventory: The Forestry Office conducted a fuels inventory around all developed areas in the park. This included measurements of down and dead woody fuels and standing live fuels. This information will be used for pre-attack planning and for making decisions on let-burn and wildfires.



2. Backcountry Cleanup: The forestry crew, with the assistance of a YCC crew from Palisades, Idaho, removed 11 culverts scattered along the Yellowstone River in Hayden Valley. They removed a can dump, car body, and a saw mill site from the South Rim Drive. The crew cleaned up the Norris Hotel site, three can dumps near Indian Creek Campground and a dump in Virginia Meadows.
3. Exotic Weed Control: The forestry crew conducted disturbed surveys for field bindweed, dalmation toadflax and ox-eye daisy.
4. Hazard Tree Removal: Although there was no formal hazard tree program this year due to budget restraint, the crew removed particularly dangerous trees throughout the park. During the spring and fall, the forestry crew continued working to convert the vegetation in Indian Creek Campground from old, diseased lodgepole pine to young, diverse vegetation.
5. Old Faithful Inn: The crew located and cut about 50 matching distorted lodgepole pine trees to be used as replacement knee braces on the Old Faithful Inn.



### III. RESOURCE MANAGEMENT AND VISITOR PROTECTION

#### N. Research Accomplished - Resulting in Publications

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Yellowstone Grizzly Bear Investigations, Annual Report of the Interagency Study Team, 1978-79. National Park Service, U.S. Forest Service, Montana Fish and Game Department, U.S. Fish and Wildlife Service, Idaho Fish and Game Department, Wyoming Game and Fish Department, 1980.

Theses Received:

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Arct, Michael J., Dendrochronology in the Yellowstone Fossil Forests. Master's Thesis, Loma Linda University, 1979.

Fritz, William Jon, Depositional Environment of the Eocene Lamar River Formation in Yellowstone National Park. Ph.D. Thesis, University of Montana, 1980.

Pfister, Allan Robert, Postfire Avian Ecology in Yellowstone National Park. Master's Thesis, Washington State University, 1980.

Romme, William H., Fire and Landscape Diversity in Subalpine Forests of Yellowstone National Park. Ph.D. Thesis, University of Wyoming, 1979.

Youmans, Clifton Conrad, Characteristics of Pocket Gopher Populations in Relation to Selected Environmental Factors in Pelican Valley, Yellowstone National Park. Master's Thesis, Montana State University, 1979.



#### IV. MAINTENANCE

- A. Buildings: The park's cyclic maintenance and repair/rehab projects have been held at a minimum this past year, resulting in the deferred maintenance of future projects. Major maintenance has been accomplished more on an emergency or crisis basis than a planned program basis. Most of the cyclic-type projects accomplished resulted from turnover in quarters occupancy or deferred maintenance beyond the useful life.

Day labor-type projects were continued, such as the Grant Village maintenance shop. In this case, walls were insulated, the electrical system reached 80% completion and the heating system reached 60% completion. Another day labor construction project includes the final site work around the Mammoth concessions dorm, including walks, handicapped access ramps, and landscaping.

In accordance with the park's Master Plan and management philosophy, 148 cabins were removed from the Fishing Bridge area. These structures have not been utilized as visitor accommodations in the past two years.

- B. Utilities: As with the case of buildings, cyclic projects and major repair/rehabilitation was limited to emergency-type situations or day labor projects. Because of line failures, over 1,000 feet of sewer main was replaced throughout the park. Several water pumps and sewer pumps were repaired or replaced.

Another emergency situation arose when a gasoline line ruptured at the Bridge Bay Marina. The spill was contained and cleaned up and new connections were installed between the storage tanks and the pumps.

Several day labor construction projects were undertaken, including improved fire protection and increased flow for the sprinkler system at the Old Faithful Inn; 2,500 feet of high-pressure gas main for the Grant Village maintenance facility; a new water system at Stevens Creek and Pebble Creek; and installation of a heating system within the Canyon water plant.

- C. Roads and Trails: Major road work during the summer consisted of 35.1 miles of chip/seal and 5.2 miles of rehabilitation overlay. In addition, a 300-foot stretch of the Beartooth Highway was re-routed to alleviate a persistent slide problem. An unused 1967 model Barber Greene hot mix plant was acquired from the Navy.

Thermal area boardwalks were extensively reconstructed at Mammoth Hot Springs. In addition, boardwalk reconstruction work around the Old Faithful area was completed.



- D. Energy Conservation: All retrofit projects begun in 1979 were completed on schedule.

Twenty-five more woodburning stoves were installed, completing all those for residential use. Even the two-story, four-plex at Old Faithful now has woodburners. A wood furnace was installed at the Madison Shop.

In Mammoth, steam heaters were removed from the sand shed which is the garage for loaded sanding trucks. A woodburning furnace was installed, and other insulating and repair projects were completed in the building to make it tight. The result will be lower fuel-oil consumption by the Repair Shop boiler, which previously supplied steam to the shed. A waste oil furnace was installed in the Electric Shop; also, the oil-fired furnace in the Plumbing Shop was removed, leaving it to be heated exclusively with two woodburning stoves and a waste oil furnace.

The ceilings in the Plumbing Shop at Mammoth and the dorms at Canyon, Lake and Madison were insulated. Plastic curtains were placed on the garage doors of the Mammoth Repair Shop, Supply Center.

Water heater blankets were installed on over 100 units, mostly residential, around the park. Insulation was also blown into numerous residential units which previously had not been winterized.

During the summer months, an energy audit of all NPS buildings was performed. Every such structure in the park that uses energy (over 600 buildings) was surveyed, and its characteristics documented for computer input that will, in turn, supply a listing of all buildings according to energy efficiency. The list will become the basis for further retrofit projects.

The position of permanent full-time Energy Coordinator was established and filled at mid-year. The function of the job is to be the lead for the Superintendent and his staff in all energy-related matters of planning and operations.

In accordance with WASO and RMR instructions, a revalidation of all energy data since 1975 was accomplished in October. On a quarter-by-quarter basis, all previous reports were recompiled, verified, and submitted, again, as one package to be combined Servicewide into the NPS performance record. Although a few changes in the park's numbers for previous years had to be made, they were minor, except for showing a significantly higher 1975 diesel fuel usage. That correction is important because 1975 is the base year to which succeeding years are composed.



A major conservation step was taken by the park's chief concessioner, TWA Services. Their vehicle repair garage in Gardiner, Montana, had been a high-ceilinged, many-windowed, poorly lit facility which was heated inefficiently by propane space heaters. TWA has now completed a \$40,000 modification which lowered and insulated the ceiling, closed off most windows, and made other improvements which will greatly increase the building's energy efficiency.

A comparison of 1980's energy conservation performance with that in 1979 is as follows:

	<u>Elect.</u> <u>kwh x 10<sup>6</sup></u>	<u>Fuel Oil</u> <u>gal x 10<sup>3</sup></u>	<u>LPG</u> <u>gal x 10<sup>3</sup></u>	<u>Gasoline</u> <u>gal x 10<sup>3</sup></u>	<u>Diesel</u> <u>gal x 10<sup>3</sup></u>
FY'79	6.97	294.1	84.7	279.0	107.5
FY'80	6.65	254.3	73.9	243.7	97.9
% Change	-4.6	-13.5	-12.8	-12.7	-8.9

As shown, each key measurement category displays a favorable percentage change for the year. The milder winter was a contributing factor, but most of the improvements can be attributed to the various conservation programs now in effect. These include lower building temperatures, use of woodburning stoves, vehicle mileage restrictions, use of storm windows, insulation and other measures.

E. Fire Safety: Under the day labor construction project for fire safety, the following projects were started or completed as indicated:

1. Completed foundations for fire escapes at Old Faithful girls' dormitory. Materials for escapes including new doors, are on-site.

2. Installed fire warning pull box stations in four cabin areas as follows:

Canyon - 100% complete (46 stations)  
 Lake Hotel - 100% complete (12 stations)  
 Lake Lodge - 100% complete (20 stations)  
 Mammoth - 50% complete (17 stations)  
 Roosevelt Lodge - Materials on site

3. Installed zoned fire detection systems parkwide as follows:

Canyon - 4 dormitories - 100% complete  
 Old Faithful Snowlodge - 100% complete  
 Old Faithful - 3 dormitories - 95% complete  
 Lake Lodge - 95% complete





## V. OTHER

### A. Public Information Office:

1. Personnel Actions: In April, a public affairs clerk was hired to assist the Office of the Superintendent and the Public Information Office. In early June, a seasonal park ranger was hired for the Public Information Office to assist with a variety of duties during the busy summer season. On June 20, Joan Anzelmo reported for duty as the park's Public Information Officer.

A student intern studying communications at the University of Colorado worked in the Public Information Office intermittently for one week in September as a part of her course plan.

2. Press Releases and Media Relations: There were 47 press releases issued in 1980 on a wide variety of topics, including park activities, road openings and closings, bear warnings, relocations and destruction, poaching crimes, park personnel changes, and other pertinent information.

During the year, approximately 10,000 contacts were made with media representatives, either by press releases, telephone, or personal contacts. After arrival of the Public Information Officer in June, media relations were enhanced and in some cases developed through consistent contacts and visits to surrounding communities.

3. Meetings and Conferences: The Public Information Officer attended local chamber of commerce meetings as much as possible, fostering fruitful community relations. The Superintendent and Public Information Officer attended the Old West Trail Foundation Annual Awards Dinner in Cody, Wyoming; the Red Lodge Chamber of Commerce annual dinner in Red Lodge, Montana; and the Montana State Snowmobile Association Convention in West Yellowstone.

The Public Information Officer met with Forest Service public relations staff for the Bridger-Teton and Targhee Forests in their offices during separate visits to Jackson, Wyoming, and St. Anthony, Idaho. Joan spoke to a group of Targhee Forest district receptionists at a training session in St. Anthony on the subject of National Park Service visitor services.

Joan also attended a meeting of national park and national forest public information staff for nearby parks and forests in Grand Teton National Park in October to discuss mutual issues and concerns and media relations with surrounding communities.



4. Filming Permits: During the year, 40 filming permits were issued to individuals and film companies for both filming and commercial still photography. Seven of these were foreign filmmakers from England, Japan and Argentina. For the most part, wildlife filming was the most requested, though some requests were for geothermal filming specifically.
5. Publication Editing Requests: The Public Information Office responded to more than 20 requests for editing publications on Yellowstone Park, and numerous other phone requests for the same. These requests are often complex, requiring extensive research on the part of the staff to supply accurate information.
6. Photo/Slide Requests: We have had continued requests during the year for a variety of slides and photographs on Yellowstone Park subjects. The requests are from publications, schools, travel organizations, media and individuals.

The Photography Shop is also attached to the Public Information Office, and all requests for work should be handled through this office.

7. General Information Services: The Public Information Office served as sort of a clearing house of information for the park and local communities, and responded daily to written, telephone and personal requests for assistance and information.

A wide range of correspondence was responded to, which often required detailed answers. More than 25% of this correspondence was from foreign countries interested in U.S. national parks and/or Yellowstone.

Routine assistance was provided to the International Park Affairs Office in Washington with foreign language requests for national park information. Sometimes the assistance was in the form of translated letters.

The Public Information Office assisted with responses to a variety of Congressional requests and correspondence. Of particular note were the many letters written to Representatives and other Government officials, opposing the closure of Yellowstone next winter.

In July, the Public Information Office began to compile and publish the park's byweekly newsletter in a new and expanded format.



World Media Seminar  
Madison Junction, Aug. 6



## 8. Special Events:

- a. World Heritage Media Seminar: This group, comprised of journalists from around the world, and initiated by UNESCO to publicize the World Heritage Program, visited Yellowstone on August 6. Regional Director Mintzmyer and Superintendent Townsley officially welcomed the group of 30 international journalists at Madison Junction before they began their visit. Superintendent Townsley, Public Information Officer Anzelmo, and Chief Park Naturalist Mebane accompanied the group on their visit to Yellowstone's highlights, following a leisurely luncheon by the Madison River. That evening, TWA Services hosted a reception in honor of the group at the Lake Hotel, followed by dinner.
- b. Foreign Military Air Attache's Visit: The U.S. Air Force Office of International Activities sponsored a visit to Yellowstone for 48 foreign military diplomats on October 3 and 4. Superintendent Townsley officially welcomed the group at the Albright Visitor Center in Mammoth. On October 3, Public Information Officer Anzelmo and Public Affairs Clerk Marting accompanied the group on a visit to Yellowstone's highlights. That evening the U.S.A.F. held a reception at the Old Faithful Inn for the foreign dignitaries. Various members of the park and concessioner staff were also invited to the reception. The following day, Ms. Marting and Ranger-Naturalist Hirschmann accompanied the group on a visit to other areas of the park. The group departed on the 4th.

9. Official Visitors: A total of 357 official visitors were welcomed in Yellowstone during 1980. The Public Information Office planned and handled their visits. Included in this number were various special student groups, comprising approximately 70 of the total number.

A breakdown by month follows:

<u>Month</u>	<u>Visitors</u>	<u>Month</u>	<u>Visitors</u>
January	0	July	5
February	2	August	56
March	0	September	29
April	78	October	86
May	46	November	5
June	50	December	0

Of the 357 total official visitors, 223 were foreign, representing 46 countries.





<u>Country</u>	<u>Visitors</u>	<u>Country</u>	<u>Visitors</u>
Algeria	5	Italy	7
Argentina	5	Japan	36
Australia	9	Kenya	2
Belgium	3	Korea	4
Bolivia	1	Malaysia	2
Brazil	3	Mexico	17
Bulgaria	1	Netherlands	3
Canada	35	New Zealand	3
Chile	25	Norway	3
China	2	Pakistan	1
Columbia	1	Peru	1
Denmark	1	Poland	1
England	14	Portugal	1
Finland	1	South Africa	2
France	4	Sri Lanka	1
Germany	2	Sweden	4
Ghana	1	Switzerland	2
Greece	1	Taiwan	3
Guyana	1	Thailand	1
Hungary	3	Uruguay	2
Iceland	1	Venezuela	1
India	3	Yugoslavia	1
Israel	2	Zaire	1

- B. Safety: The safety program in Yellowstone National Park continues to receive high priority. A full-time Safety Manager (Assistant Regional Safety Manager) remained in residence, and spent a large portion of his time out in the park. Parkwide Safety Committee meetings were held monthly. June through September these meetings were held at Madison, Canyon, Lake and Old Faithful, and during the winter months at Mammoth. The parkwide Safety Committee consisted of representatives from all divisions, a housewife, and representatives of the concessioners operating in the park. A representative of the YACC Camp was also included on the committee. Workcrew "tailgate" safety meetings were held on a regular basis. The Safety Manager participated in one of these meetings each week.

Prior to the start of the snowmobile season, training sessions on the safety and maintenance of the machines were conducted. These training sessions were held at the Vehicle Repair Shop and conducted by trained personnel. It is mandatory for any employee who operates a snowmachine to attend these classes. Each division chief is responsible for on-the-machine training of the over-the-snow operation of the machine.

Defensive Driving classes were conducted monthly during the year, with 194 National Park Service and YACC employees receiving certificates. All employees must have a course in defensive driving



within 30 days after obtaining their operator's permit. All employees must pass a driver's road test before an SF-46 is issued to operate a Government vehicle.

Numerous first aid and CPR courses were held during the year, with NPS and YACC employees in attendance.

The National Safety Council's forklift training course was presented with 12 NPS and YACC employees receiving certificates.

A comparison of accidents for the past three years is as follows:

	<u>1978</u>	<u>1979</u>	<u>1980</u>
Fatalities	5	3	5
Employee Accidents	46	66	30
Employee Vehicle Accidents	38	22	18

One fatality occurred when a male visitor fell off a cliff near the Undine Falls overlook. One fatality occurred near East Entrance when the driver lost control of the pickup he was driving and hit a rock ledge. One fatality occurred when a canoe in which a visitor and a companion were traveling upset on Yellowstone Lake. One body was recovered, but the second visitor in the canoe disappeared. The body of the second person was not located, so it is presumed that he also died in the accident. An employee disappeared near Grant Village when he was making a canoe patrol. His body was not found.

After each employee motor vehicle accident, a review team chaired by the division chief, met to discuss the accident, determine whether or not the accident could have been prevented, and decide upon the appropriate disciplinary action to be taken when warranted.

### C. Auxiliary Programs:

1. Young Adult Conservation Corps (YACC): 1980 was the first year the YACC Program stabilized in Yellowstone. For the first time since the program began, there was a stable budget and staffing level for the entire year.

Corpsmember strength averaged 100 for the year. Recruiting was no problem. Job Service offices had more candidates than jobs were available in YACC. The average length of stay for corpsmembers increased, with less turnover. The Center worked closely with the Department of Interior's Office of Youth Program in Chicago to recruit young black corpsmembers. Some racial problems have been experienced, but overall the program was successful.



A matter of concern was the limit of 14 staff members imposed by WASO. The Center requires 16 staff members to operate a residential program. The two additional staff positions were occupied by corpsmembers who serve as dormitory aides working evening and weekends. Often there was a need for more mature, stable employees to fill those two positions.

The YACC facility continued to develop with the reconstruction of an old CCC building into an administrative office. Considerable planting, seeding and general improvement were made to the grounds surrounding the center.

The YACC dining hall continued to support in-park training courses as well as corpsmembers. This excellent food service contributed to the high morale of the corpsmembers. Sometimes the dining hall supported concession employees when their food service operation was closed.

An adequate recreation facility for corpsmembers was still lacking. Plans were developed for a recreation building that could be constructed in the spring of 1981.

Again in 1980, the YACC Program accomplished a tremendous amount of work in nearly all areas of the park. Almost every work location benefited to some extent from corpsmembers efforts. An important by-product of this labor was the experience and training received by the individual corpsmembers, who are better qualified workers after the YACC Program.

Major projects included removal of most of a 56-mile telephone line from Mammoth to the Northeast Entrance. Construction of a portable dormitory for NPS workers, campground rehabilitation at Canyon, and vista clearing along 50 miles of roadway. The management of roadside vegetation opened up scenic views, increased visitor safety and removed unsightly, damaged trees. Chips from the downed vegetation were used in the Canyon project.

Yellowstone provided assistance in the form of labor to six different National Park Service areas in the Region. The following list summarized the projects.

<u>LOCATION</u>	<u>PROJECTS</u>	<u>NO. WEEKS</u>	<u>NO. STAFF</u>	<u>#CORPS- MEMBERS</u>	<u>CAMP COST</u>
Tetons	Various Support	27	0	5	\$ 3,500
Big Horn	Fencing, Chipping	4	1	5	600
Golden Spike	Erosion Control	6	1	6	12,000
Ft. Laramie	Site Rehabilitation	12	1	6	4,000
Knife River	Tree Planting	1	1	4	200
Wind Cave	Various support	<u>12</u>	0	2	<u>100</u>
TOTALS:		62 weeks			\$20,400



A total of 11,650 corpsmember hours and 920 work leader hours were utilized by these parks. Yellowstone did over \$90,000 worth of work for these areas at a cost to us of just over \$20,000

In late December the Camp was notified that corpsmember strength could increase to 115 with 16 staff positions. Budget for FY 81 would be \$1,647,835.

2. Youth Conservation Corps (YCC): Yellowstone National Park operated a seven-day residential YCC Camp from June 15 to August 9. Corpsmember strength was cut from 28 in 1979 to 22 in 1980.

In 1980, a new contract was awarded to EDGE, Inc. from Boulder, Colorado. Mr. Kent Riley was Camp Director and the camp was again located at Grant Village. The camp budget was \$44,300.

Eighteen major projects were completed during the eight-week program, the largest involving vista clearing, trail maintenance, campground maintenance, bridge construction and fish population surveys. A total of 6,817 hours was spent on the projects which had a value of \$47,297, for a cost/benefit ratio of \$1.06.

The staff of EDGE, Inc., was enthusiastic and well qualified. Spike camp operations in remote areas were the rule rather than the exception. A strong work ethic prevailed as well as an excellent environmental awareness program.

3. Volunteers-In-Parks: The VIP Program continued to be an effective and necessary program with more and more highly qualified individuals contributing their time and talents, including an extended tour by an Australian Royal Park Ranger. Participation increased in the 1979-80 period and involved 11,632 hours of work donated.

Although housing and subsistence payments increased only slightly, we were able to award each VIP with a book of their choice in an effort to express our appreciation. As before, most of the volunteers were families of concession employees, NPS employees on their "off" time, and families of Park Service employees.

4. A Christian Ministry in Yellowstone National Park/The Gardiner-Mammoth Winter Ministry: These yoked interdenominational ministries are related nationally to "A Christian Ministry in the National Parks." The program is self-supporting, with funding received primarily from the offerings received at the services of worship sponsored by the Ministry. No Government funding is provided nor sought for support.





The Ministry provides interdenominational services of worship year-round for park visitors and permanent residents. During the winter months, the Resident Minister, Reverend Ron Creque, conducted the services at Mammoth Hot Springs in the school multi-purpose room. A student intern conducted regular services of worship at Old Faithful during the winter season.

In the summer season, the Christian Ministry arranged for 37 seminary and college students from 16 different Catholic and Protestant denominations to conduct ministry activities for the park visitors and employees. There was a total of 32 interdenominational services of worship conducted at various times and locations throughout Yellowstone. Attendance at those services this year totalled over 14,300, down 18% from 1979. The Resident Minister and the student staff provided counseling, crises intervention, referral for social problems, emergency transportation, assistance for stranded visitors, and visitation to the hospitalized in the park.

The Christian Ministry again for the 30th year sponsored a series of choral and instrumental music services in four areas of the park during August. A choir of 90 voices and a 20-piece chamber orchestra (both comprised of park employees and residents) performed selections from "The Messiah" by Handel.

#### D. Status of Planning:

1. Old Faithful Development Concept Plan: In February, members of the planning team from the Denver Service Center spent a week with park staff observing the winter operation and the problems associated with it. Subsequent to their trip the task directive was prepared and transmitted to the park for review.

The first major planning session for all team members was held at Old Faithful on July 14-23 to observe summer operation and to prepare draft alternatives. Eight draft alternatives were prepared and reviewed by the park staff. The draft alternatives were presented to the Regional Director and staff, the major park concessioners and the park staff in the Regional Office on September 5.

Subsequent to that meeting, the park, Service Center and Regional Office consolidated the alternatives into four draft alternatives which were presented to the park visitors at Old Faithful on October 1.

Additional public meetings will be held with the gateway communities and in the surrounding state capitols early in 1981.



2. Grant Village Development Concept Plan: The U.S. Fish and Wildlife Service initiated formal Section 7 Consultation under the Endangered Species Act. Meetings were held between the park, U.S. Fish and Wildlife Service and representatives from the Regional Office. All concerns of the Fish and Wildlife Service were addressed and consultation completed. The Preferred Alternative for Grant Village will be printed in 1981 and placed on public review for a period of 45 days.

Kober Construction Company was low bidder on Phase I construction for Grant Village lodging units with a bid of \$1,421,200. Construction will begin on the modular units early in 1981 and on-site construction will be completed in the fall of 1981.

3. Telephone Service: Mountain Bell continued to install facilities for a parkwide microwave phone system. Derrick Construction Company from Billings constructed an addition to the Mt. Washburn fire tower which serves as the hub of the system and also encloses an interpretive/viewing area atop Mt. Washburn. The microwave system is scheduled for operation in the spring of 1981.



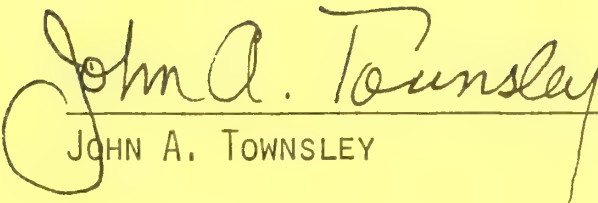
The number of visitors during the period between the establishment of the park (1872), and the beginning of this compilation (1895), was estimated to be not less than 1,000 nor more than 5,000 each year.

<u>YEAR</u>	<u>VISITORS</u>	<u>YEAR</u>	<u>VISITORS</u>	<u>YEAR</u>	<u>VISITORS</u>
1895	5,438	1930	227,901	1960	1,443,288
96	4,650	31	221,248	61	1,524,088
97	10,680	32	157,624	62	1,925,227
98	6,534	33	161,938	63	1,872,417
99	9,579	34	260,775	64	1,929,316
		35	317,998	65	2,062,475
1900	8,928	36	432,570	66	2,130,313
01	10,769	37	499,242	67	2,210,023
02	13,433	38	466,185	68	2,229,657
03	13,165	39	488,936	69	2,193,894
04	13,727				
05	26,188	1940	526,437	1970	2,297,290
06	17,182	41	581,761	71	2,120,487
07	16,414	42	191,830	72	2,246,827
08	18,748	43	64,144	73	2,061,537
09	35,545	44	85,347	74	1,937,768
		45	178,296	75	2,246,132
1910	19,575	46	814,907	76	2,525,174
11	23,054	47	932,503	77	2,487,084
12	22,970	48	1,013,531	78	2,623,141
13	24,929	49	1,133,516	79	1,895,169
14	20,250				
15	51,895	50	1,109,926	80	2,018,852
16	35,849	51	1,166,346		
17	35,400	52	1,350,295*		
18	21,275	53	1,326,858		
19	62,261	54	1,328,893		
		55	1,368,515		
1920	79,777	56	1,457,782		
21	81,651	57	1,595,875		
22	98,225	58	1,442,428		
23	138,352	59	1,408,667		
24	144,158				
25	154,282				
26	187,807				
27	200,825				
28	230,984				
29	260,697				

\*Beginning in 1952, the figures represent travel during the calendar year instead of the period October 1 to September 30 as previously used.



1981  
ANNUAL REPORT  
OF THE  
SUPERINTENDENT  
YELLOWSTONE NATIONAL PARK

  
\_\_\_\_\_  
JOHN A. TOWNSLEY

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TABLE OF CONTENTS

	<u>Page</u>
<u>I. ADMINISTRATION</u>	
A. Budget and Finance . . . . .	1
B. Personnel . . . . .	1-3
1. Staffing . . . . .	2
2. Classification . . . . .	2
3. Employee Development . . . . .	2-3
4. Worker's Compensation . . . . .	3
5. Equal Employment Opportunity . . . . .	3-4
C. Procurement . . . . .	4
D. Supply . . . . .	4
E. Property . . . . .	4
F. Office Services . . . . .	4
<u>II. CONCESSIONS MANAGEMENT</u>	
A. Personnel . . . . .	5
B. Concession Contracts . . . . .	5
C. Concessioners . . . . .	5-6
<u>III. INTERPRETATION AND VISITOR SERVICES</u>	
A. General Interpretation . . . . .	7-8
B. District Interpretive Activities. . . . .	9-19
1. West District . . . . .	9-12
2. South District . . . . .	13-15
3. North District . . . . .	15-19
C. Historian and Archives . . . . .	19-20
D. Library . . . . .	20-21
E. Curator . . . . .	21-23
F. Yellowstone Library & Museum Association . . . . .	23
G. Big Hole National Battlefield . . . . .	24
H. Status of Planning . . . . .	24
<u>IV. RESOURCE MANAGEMENT AND VISITOR PROTECTION</u>	
A. General . . . . .	25-26
B. Law Enforcement . . . . .	26-29
C. Tort Claims . . . . .	29
D. Weather Conditions . . . . .	29
Chart - 1981 Precipitation . . . . .	30
E. Fish and Wildlife Management . . . . .	31-36
1. U.S. Fish & Wildlife Service . . . . .	31
2. Wildlife Management . . . . .	31-33
3. Threats to Park Resources & Monitoring . . . . .	33-36



IV.	<u>RESOURCE MANAGEMENT AND VISITOR PROTECTION (cont.)</u>	Page
F.	Wilderness and Backcountry Management . . . . .	36
G.	Park Visitation . . . . .	36
H.	Lost and Found Summary . . . . .	36
	Chart - Backcountry Use . . . . .	37
I.	Entrance and User Fee Collection . . . . .	38
J.	Special Use and Park Supplier Permits . . . . .	38
K.	Central Communications Center Records Summary . . . . .	38-39
L.	Fire Management . . . . .	39-41
	1. Structure Fire . . . . .	39
	2. Wildland Fires . . . . .	39-40
	3. Helicopter Operations . . . . .	40-41
	4. Search and Rescue . . . . .	41
M.	Forestry Program . . . . .	41-42
	1. Forestry Crew . . . . .	41
	2. Exotic Weed Control . . . . .	41
	3. Hazard Tree Removal . . . . .	41-42
	4. Backcountry Cleanup . . . . .	42
	Chart - Search and Rescue Operations . . . . .	43
N.	Photographs . . . . .	
	1. 1981 Permanent Ranger Staff . . . . .	44
	2. Grizzly bear relocation . . . . .	45
	3. Grizzly bear collaring . . . . .	46
	4. Grizzly bear relocation using helicopter . . . . .	47
	5. Forest Lake Fire staging area . . . . .	48
	6. Astringent Fire . . . . .	49
	7. Sulphur Fire . . . . .	50
V.	<u>RESEARCH</u>	
A.	General . . . . .	51-52
B.	Research Accomplished . . . . .	52-53
VI.	<u>MAINTENANCE</u>	
A.	Buildings . . . . .	54
B.	Utilities . . . . .	54
C.	Roads and Trails . . . . .	54
D.	Energy Conservation . . . . .	55-56
E.	Health/Life Safety . . . . .	56
F.	Photographs . . . . .	
	1. OFI Girl's Dorm Fire Escape . . . . .	57
	2. Lake Hotel hall . . . . .	58
	3. Lake Hotel Girl's Dorm Fire Escape . . . . .	59
	4. Old Faithful Inn hall . . . . .	60
VII.	<u>SUPERINTENDENT/PUBLIC INFORMATION OFFICE</u>	
A.	Personnel Actions . . . . .	61-62



VII.	<u>SUPERINTENDENT/PUBLIC INFORMATION OFFICE</u> (cont.)	Page
B.	General Information Services . . . . .	.62-63
C.	Press Releases . . . . .	63
D.	Media Relations . . . . .	.63-65
E.	Official Visitors . . . . .	.65-66
F.	Filming Permits . . . . .	.66-67
G.	Meetings and Conferences . . . . .	.67-68
H.	Special Events . . . . .	.68-69
I.	Photo/Slide Requests . . . . .	69
	Photographs	
1.	Walking Tour - Secretary Watt's Sept. Visit . . . . .	70
2.	Demonstrators - Sec. Watt's Sept. Visit . . . . .	71
3.	Snowmobile Trip - Sec. Watt's Dec. Visit . . . . .	72
J.	Publication Edition Requests . . . . .	73
K.	Special Projects . . . . .	73

VIII. OTHER

A.	Auxiliary Programs . . . . .	.74-76
1.	Young Adult Conservation Corps . . . . .	74
2.	Youth Conservation Corps . . . . .	75
3.	Volunteers-In-Parks . . . . .	75
4.	Christian Ministry . . . . .	.75-76
B.	Status of Planning . . . . .	.76-79
1.	Core Mission . . . . .	76
2.	Old Faithful DCP . . . . .	76
3.	Grant Village DCP . . . . .	77
4.	Fishing Bridge Cabins/Lamar Ranger Station . . . . .	77
5.	PRIP Program . . . . .	77
6.	Telephone Communications System . . . . .	78
C.	Safety Program . . . . .	.78-81
D.	Visitation Statistics . . . . .	82



## I. ADMINISTRATION

- A. Budget and Finance: During 1981, there were several changes in the Budget and Finance staff. The Payroll Clerk, GS-5, resigned to go into private business; a Fiscal Accounts Clerk, GS-4, resigned to return to her home state and the Clerk-Typist, GS-3, was promoted to the Budget Clerk, GS-4, (formerly Fiscal Accounts Clerk, GS-4). A total of 8.1 workyears were expended in Budget and Finance.

Final FY 81 budget for the park was:

ONPS		\$ 9,701,100
General Management	313,000	
Interpretation	413,100	
Resource Management and		
Visitor Protection	1,866,100	
Maintenance	6,114,200	
Concessions	157,800	
Administration	681,400	
Research	155,500	
Education of Children		375,500
Energy		361,600
Environment Studies		10,100
Health & Life Safety		3,622,000
Seasonal Sanitarian		14,000
Volunteers in Park		2,200
Construction, Line Items		1,174,800
Construction, Lump Sum		<u>75,000</u>
Total Park Budget		\$15,336,300

Fiscal transactions in FY 81 were:

Bills of Collection Issued:	840
Receipts Deposited:	\$ 646,500
Miscellaneous Bills Processed,	
Utilities, etc.:	No: 391
	Amount: \$1,101,000
Journal Vouchers	No: 191
	Amount: \$1,598,000
Fee Collections	
Accounted and Deposited	\$1,406,000

- B. Personnel: The Personnel staff had turnover in three of eight occupied positions. Both processing clerks resigned, one for personal reasons and the other to accept a seasonal maintenance position; the employee development incumbent accepted a position with the local school board; and in addition, we lost a YACC





clerk-typist position that had been filled for nearly two years. A total of 7.2 workyears were expended.

1. Staffing: We issued 70 vacancy announcements with employment freezes occurring at the beginning and ending of the year. Based upon FY 81 ceilings, we had 2 permanent full-time and 19 permanent less-than-full-time positions vacant at the end of the year. The high number of less-than-full-time vacancies resulted from the yearend employment freeze and the unknown effects of the ceiling change to full-time equivalents.

The turnover rate in Yellowstone was 23% as compared to 19% in 1980. There were 18 resignations, 23 transfers, 3 retirements and 3 conversions to seasonal appointments.

The Yellowstone Examining Unit (YEU) was expanded to cover seasonal foreman positions. As an experiment, seasonal laborer recruitment was handled by the Yellowstone staff. The experiment was initiated to improve our ability to hire women and minorities in laborer positions. Significant improvements were made resulting in approval to extend the experiment through 1982.

2. Classification: In 1981, we completed 2,008 classification actions, conducted 199 desk audits, and referred 17 classification actions to the Regional Office for final action. Twenty-seven positions were recommended for upgrade while 76 were recommended for downgrade. These recommendations resulted from several position studies that were conducted on seasonal positions. The recommendations will for the most part be implemented without serious impact on rehire employees during 1982. However, two positions downgraded are in the Radio Shop and are encumbered on a permanent basis. These downgrades are the result of a new classification standard being issued.

Other studies involved all clerk-typist positions in the park and foreman positions in the Maintenance Division. We expect to see more activity in this area as we strive to achieve a more streamlined and cost effective organization to reduce costs and reflect changing priorities.

3. Employee Development: During 1981, 54 training courses were attended by 395 trainees. Twenty-one local training courses were offered, with four being required supervisory training. This represents a continuation of our efforts begun last year to increase training while reducing costs. In comparison to 1980, we funded half as many courses which were attended by more trainees. In addition, there was a 330% increase in the completion of correspondence courses. With more employees attending fewer courses and the use of local and correspondence training opportunities, we have been able to keep the number



of people receiving training up while lowering the overall cost of training.

Quality Salary Increase Awards were received by Franklin Walker, Curtis Edlund, Madeline Hall and Norma Turner; 19 length-of-service awards were presented and 10 employees received Special Achievement Awards totaling \$2,725. The recipients were:

Pete Dalton	\$ 75.00
Sue Fullerton	\$400.00
Christopher Robinson	\$ 50.00
Merton Holt	\$200.00
Richard Fey	\$200.00
Robert Mahn	\$450.00
Stewart Orgill	\$250.00
Don Henderson	\$400.00
Linda Green	\$400.00
Bob Williams	\$300.00

Five meetings were held in various districts of the park during the summer of 1981. In addition, several employee workshops were held on such subjects as the revised performance appraisal system, the new merit promotion plan, and the seasonal appraisal system. All sessions were well received.

4. Worker's Compensation: One hundred twenty-seven Worker's Compensation cases were filed in 1981, which represented a decrease of 8% over 1980. About 40% of the cases were for YACC corpsmembers.
5. Equal Employment Opportunity: Our status employment of women decreased from 26.1% in 1980 to 24.8% in 1981. We attribute part of this decrease to the number of vacancies in the park in traditionally female positions. The percentage of women in wage grade positions and general schedule positions above GS-5 increased from 7.5% to 7.8% with the most significant increase at the GS-11 level where we went from one woman to three. Our status employment of minorities increased from 3% to 3.9%, although retention of minorities continues to be a problem.

Seasonal employment of women increased from 23.4% in 1980 to 25.6% in 1981; however, seasonal employment of minorities continued to decrease from 4% to 2.6%. The decrease in minority hiring was significant in the general schedule, while there was an increase in the wage grade ranks. Our local recruitment of laborers in 1981 proved to be our best recruiting device for both women and minorities.

In April 1981, the local Federal Women's Program sponsored a one week seminar entitled "Careers in Progress." It was attended by 91 employees and covered such topics as Risk Taking, the



Merit System, Role Modeling, Women Supporting Women, Sexual Harrassment, and an exchange with management on directions for local employee development programs. The program cost less than \$100 and was very well received by employees.

The local day care center is in its second year of operation and was featured in the Courier in August. At the end of the year, it had served 104 children, including several minority children, since it opened its doors in May 1980.

- C. Procurement: The Procurement staff remained fairly stable during the year, with all procurement accomplished with a total of 3.2 workyears expended. Procurements included 3,326 actions under \$10,000 each, for a 4% increase; and 61 actions over \$10,000 each, for a 27% increase. Total expenditures were \$4,554,974, an increase of 13%.
- D. Supply: Supply operations remained relatively stable. There was a turnover in one Warehouseman position and the Supply Clerk vacancy has not been filled. The supply operation took over the garage parts operation. A total of 5,593 supply issues were transacted with a staff totaling 4.1 workyears.
- E. Property: The property function again had two out of three positions turnover. The Supply Technician, GS-5, and the Supply Clerk, GS-3/4, were again filled by new personnel. A tighter program of replacing and purchasing new equipment has been initiated. A better program of utilizing present equipment by borrowing between divisions is gaining ground. Inventory work on missing items is progressing. The transfer of YACC capitalized and real property has been completed. A great deal of work is to be done on inventory reconciliation and employee accountability responsibilities. Training is required for personnel in this division for keying of locks and cutting keys. Gasoline records are now more closely maintained to insure better accountability.
- F. Office Services: Office Services was hindered by the resignation of two individuals in critical positions. However, one subject-to-furlough position and one temporary position were filled. A total of 1,966,897 photocopies were made at a cost of \$33,028.37 (excluding labor).



## II. CONCESSIONS MANAGEMENT

- A. Personnel: In June of 1981, John Burchill, Chief of Concessions Management, transferred to Lowell National Historical Monument as Superintendent. The Chief of Concessions position has not been filled at this time.

In January 1981, Bruce Wadlington joined the Concessions Management staff as a Concessions Specialist. He replaced Joe Alston, who transferred to Alaska. Bruce moved here from Crater Lake where he was the Supervisory Park Ranger.

In October of 1981, Vance Kaminski transferred here from the Denver Service Center. Vance is the Project Supervisor for the park in charge of all of the rehabilitation projects taking place.

- B. Concession Contracts: This June, a statement of requirements was published advertising the concession opportunity in Yellowstone. This concession contract was for the operation of food service, overnight accommodations, horses and boats, gift sales, and transportation services. These services were being provided under a two-year interim contract by TWA Services, Incorporated.

The Government received responses to this statement of requirements from TWA Services, Incorporated; Servomation Corporation; AMFAC Corporation; ARA Services; Guest Services, Incorporated; Greyhound Corporation; Americana Hotels, Incorporated and Michael Tusay.

On October 6, 1981, it was announced that TWA Services, Inc., had been selected to operate the facilities and services in Yellowstone. TWA Services was selected based on their commitment to invest 22% of their gross revenue, along with all pretax profits in excess of 5% for capital improvements and maintenance needs in concession facilities in Yellowstone. During the second year of their contract, TWA Services will advance \$7 million from their projected revenue for the development of new visitor services in the Grant Village area. Presently, 100 new lodging units are under construction at Grant Village and will be ready for guest occupancy this spring.

- C. Concessioners: TWA Services reported that during the summer of 1981 there were 1,471,489 overnight guests and a total of 3,348,123 meals were served. This compares to 632,988 overnight guests and 1,450,472 meals served in 1980, for increases of 132% and 130% respectively.





Hamilton Stores, Incorporated reported that sales increased approximately 28% from 1980 to 1981.

Yellowstone Park Service Stations sold 3,449,461 gallons of gasoline in 1981 compared to 3,159,814 in 1980 for an increase of .09%.



### III. INTERPRETATION AND VISITOR SERVICES

#### A. General Interpretation:

The summer operation was altered considerably in response to the overall limitations in ONPS funds and directives from management. It was necessary to share the workload of operating campgrounds with the Ranger Division; leave the Grant Visitor Center closed all summer; reduce the number of walks and talks; shorten the season; cancel parkwide training for seasonal interpreters; and reassign some staff to operational jobs. In spite of these measures, public service continued to be of the highest quality. There were many written and verbal commendations of seasonal employees, and all activities were well-attended. Travel to the park, which exceeded 2.5 million, caused a very high demand for interpretive services which could not be met in 1981.

The staff was composed of the following:

#### 1. Permanent, full-time

- a. Alan Mebane - Chief Park Naturalist
- b. John Tyers - Assistant Chief Park Naturalist
- c. Joe Halladay - West District Naturalist
- d. Tim Manns - Historian/North District Naturalist
- e. The South District Naturalist position remained vacant. John Tyers filled this function as well as his regular position.

#### 2. Permanent, Subject-to-Furlough

- a. Phyllis Schoeninger - Secretary
- b. Linda Green - Curator
- c. Bill Lewis - Oral Communication Counselor (summer only)
- d. Ted Parkinson - Assistant South District Naturalist (summer only)
- e. Bill Baker - Park Technician at Tower (summer only)
- f. Dick Townsend - Park Technician at Mammoth (summer only)

#### 3. Area Supervisors

- a. John Whitman - Mammoth
- b. Fred Hirschmann - Norris (acting)
- c. Linda Green - Old Faithful (special detail in lieu of curatorial work)
- d. Cawood Gilbert - Grant
- e. Harlan Kredit - Fishing Bridge
- f. Noel Ary - Canyon



4. Non-supervisory seasonals: There was a total of 38 other seasonals, of which 10 were new hires. In addition, we were assisted by one YACC and one SCA employee, and numerous VIPs. One of the latter was John Good, retired Superintendent from Everglades National Park and former Chief Park Naturalist, Yellowstone.

The staff operated under some special assignments during the year, which included Assistant Chief Naturalist John Tyers acting as South District Naturalist for the entire year. Curator Linda Green was the acting Old Faithful Naturalist supervisor for four months, and Communication Specialist Bill Lewis served as one of the Mammoth interpreters during the summer. John Tyers applied for disability retirement in October and moved to Bozeman. Special achievement awards were granted to Frank Walker and Linda Green during the year for their exceptional services in Yellowstone. Frank's was approved after his transfer to Carlsbad.

A new parkwide interpretive prospectus was drafted with the assistance of Regional Interpretive Planner John Reed and submitted to Region for final review by the end of the year. A planning team from Harpers Ferry assisted the park staff in producing a 10-238 for rehabilitation of the Canyon Visitor Center exhibits, which will include it in the Harpers Ferry rehab program. The new exhibits will be centered around a large-scale relief model of the Yellowstone region, being donated by the Yellowstone Library and Museum Association. The model is being constructed by Bill Chapman of Gardiner, Montana.

There were no employee accidents within the Interpretive Division this year.

The Yellowstone Institute has a new director, Mr. Rick Reese, who diversified and generally improved the operations of the Institute. Each course offered during the 1981 season was full or nearly full, serving a total of 278 adults and 68 children as compared with a total of 129 persons during the previous year. A major commitment was made by the National Park Service and the Board of the Yellowstone Library and Museum Association to expand the facilities at Lamar to increase its capacity of students from 15 to 30 per day. This will allow two courses to be presented simultaneously. With funds donated by the YLMA Board and the National Park Foundation, 18 cabins scheduled for demolition at Fishing Bridge were salvaged and moved to Lamar for sleeping quarters. It is planned to have the bunkhouse modified to provide two classrooms, a larger kitchen, and more bathroom facilities by June 1982.



## B. District Interpretive Activities:

1. West District: Budget cuts, inflation, and absorption of salary increases continued to plague the operation this year resulting in staff reductions and reductions in visitor services. In spite of this, both permanent and seasonal staffs worked extra hard and did an outstanding job of managing record numbers of visitors.

The winter season of 1980-81 provided unusual challenges in that snow fall was very light, making snowmobiling and snowcoaching very poor on the west side of the park. Periodically, extensive stretches of bare road were present and the snow-covered areas became very rough due to mild temperatures. For a period during mid-winter, passengers were being bused to Biscuit Basin where they met the snowcoach, and in March the buses travelled all the way to Old Faithful. Nevertheless, visitors enjoyed the wildlife, the thermal areas, and skiing the Old Faithful area. Many indepth questions were discussed including concerns regarding the possible closure of Yellowstone National Park during future winters.

West Yellowstone: The Yellowstone National Park Travel and Information Center was located in the old First Security Bank building again as in past seasons. In accordance with their contract agreement, TWA Services, Inc. leased the facility and provided space for the National Park Service to operate an information desk and to display exhibits.

Services offered by TWA included a reservations desk, snowcoach terminal and bus terminal. Their bus service (Yellowstone Park Lines) consisted of daily service to Big Sky and Bozeman. A considerable amount of freight also comes through this terminal via the buses.

National Park Service personnel this year consisted of one GG-5 seasonal park technician and one Young Adult Conservation Corps member (YACC), rather than the preferred two park technicians. The information desk was attended from 8:00 a.m. to 5:00 p.m. daily from December 19 through March 15. The side room was not available this year as Clyde Seely, owner of the building, had converted that space into an office for his Yellowstone Tour and Travel business. Consequently, the audio-visual program and the evening slide talks could not be given as in the past. In their place, a Kodak Audio-Viewer was purchased which provided a self-start push-button automatic tape/slide show. This portable unit is very versatile, small in size and very reliable. The program was well received.





Rebecca Davies, the seasonal park technician, did an outstanding job of carrying out her assignments. In past years the response to the presence of a National Park Service information center in town was not overwhelming. This year it was determined that an all-out effort would be made to fully test the viability of such a facility in town. Ms. Davies, being not only a naturalist of considerable experience, but a mature, highly intelligent adult with an outgoing personality, was scheduled to spend time calling upon the business establishments around town for the purpose of seeking out the owners and/or managers, and to establish a close personal acquaintance with them. This objective was accomplished with several, but it takes much time and much remained to be done at the end of the season. Aggressively pursuing the town seems to be the most effective way of contact. Townspeople have long been aware of our facility, but due to their own busy schedules have not come to us and, therefore, have not made maximum use of our services.

The majority of the winter visitors get their information about the park while dealing with the business places in town. Our frequent contact with the business people promoted a current, accurate information flow to the visitor. This was especially important as park road conditions changed so frequently.

Several of the motels took advantage of our offer to give illustrated talks, especially when they had tour groups registered. These contacts were very effective as these groups usually made only day trips into the park and were unable to participate in the conducted activities inside the park. In addition, several programs were given at the West Yellowstone elementary and high schools. These included map and compass reading, living history demonstrations, and interpretive talks. In total, 34 programs were given to 1,267 people. These included 15 programs to snowmobile groups, 7 to group tours, 2 to skiers, and 10 at the schools. Contacts at the information center included 637 snowmobilers, 592 cross-country skiers, 1,125 snowcoachers, and 446 requests for general information. The audio-viewer program was seen 147 times by a total of 508 people.

Early in the winter, Ms. Davies and the West District Naturalist held a seminar for the guides who are hired by the snowmobile rental businesses to lead snowmobilers over the area trails.

The information center staff and the West District Naturalist assisted with various operational details during the 50 km Great American Ski Chase which was held at West Yellowstone in January.



The West District Naturalist conducted a guided snowmobile tour into the park for some of the elementary school classes. Other trips for the public had to be cancelled due to warm weather and bare roads.

The winter program in West Yellowstone accomplished several objectives, and was a benefit to the town and to many park visitors.

Madison Junction: During the 1980-81 winter season, the Warming Station was operated by YACC personnel under the supervision of the Madison Area Ranger. Due to budget constraints, West District Interpretation was unable to help the rangers pay for a seasonal position as had been done in the past. The warming station structure was taken to Old Faithful again this summer where it was used to post information and maps for those planning trips into the backcountry.

West District Interpretation hired a GG-3 park aid to assist the Ranger Division in the Madison Campground operation during the 1981 summer season. This person also gave one campfire program per week at the amphitheater.

Old Faithful: The 1980-81 winter seasonal staff consisted of two GG-5 park technicians and one YACC corpsmember. The visitor center was open for the winter season from December 19 through March 15. Regular hours were from 9:00 a.m. to 4:30 p.m. daily. Due to reduced staffing, it was open only five evenings per week, from 8:00 a.m. to 9:30 p.m., to present slide programs.

Guided walks were offered in the Upper Geyser Basin at 10:30 a.m. and 2:15 p.m. daily. For the winter, visitor center attendance was 10,660. A total of 1,137 visitors enjoyed the 136 Geyser Hill walks, and 4,007 attended the 62 evening programs. The regular A/V system was not used, but the Kodak Pageant projector was set up for special showings of the geyser movie, Yellowstone: A Living Sculpture. It was presented eight times to 451 people.

At the beginning of the winter season the staff was taken on an orientation/training tour, by snowmobile, around the lower loop to familiarize them with the winter visitor use facilities.

The backcountry use permits were issued from the visitor center throughout the winter season.

The visitor center reopened on May 1 for the regular season with only the West District Naturalist and two



YACC corpsmembers to handle operations. Employment of the seasonal park technicians was delayed until June 15 to save money to enable hiring about the same number as last year. The final summer staff consisted of eleven GG-5 park technicians and one YACC. Additionally, Linda Green, the GS-5 permanent less-than-full-time museum curator was assigned to Old Faithful to serve as the seasonal supervisor. An outstanding job was done by all resulting in a very smooth and effective operation.

All seasonal personnel were terminated by the end of September in order to be conservative with fiscal year 1982 funds. The West District Naturalist operated the visitor center during the month of October aided by a Yellowstone Library and Museum Association sales clerk and a couple of volunteers. The visitor center closed for the season on October 31.

For the summer, approximately 740,080 visitors entered the visitor center, 220,224 attended the 3,312 audio-visual showings, 11,368 participated in the 300 guided walks, and 36,143 came out to the 261 evening slide programs.

In addition to the regularly scheduled events, the West District Naturalist and members of the Old Faithful naturalist staff met with several special groups and led discussions or gave guided tours.

Rehabilitation work was done on the Braille trail including replacing about 55% of the guide rope. Also, a large portion of the boardwalk in the Firehole Lake area was rebuilt.

Some wooden benches were built and installed on the walkway at Grand Geyser.

Special water heaters and solar collectors were installed at the visitor center restrooms. Another energy saving modification was to change some of the area lights from a time clock to a photo-cell switch. This system keeps better pace with the changing day length throughout the season.

In October the West District Naturalist participated as an instructor at the Idaho Science Teachers Association's annual conference. Three presentations were given.

As the year closed, severe budget constraints continued to curtail the district interpretive program. Operations are limited to the Old Faithful area and the seasonal staff consists of only two YACCs.



2. South District (General): Assistant Chief Naturalist John Tyers continued to serve as Acting South District Naturalist until October, when he applied for disability retirement. Norm Bishop assumed the duties of supervising winter interpretive operations in South District for the 1981-82 season.

The warming huts at Canyon and West Thumb were staffed with YACC personnel and one seasonal park technician, and continued to be well received by the winter visitors.

The 1981 summer season was one of contrasts. Park visitation was up 26% above 1980, placing greater demands on visitor services. However, budget limitations forced later hiring of seasonals, the closing of the Grant Village Visitor Center, an early fall closing of the Canyon Visitor Center, and the diversion of three seasonal positions to campground operations. A full schedule of interpretive activities and programs was offered from mid-June to Labor Day; basic information services were available to spring and fall travelers.

The staff at Grant Village was reduced from five to two, and Canyon and Fishing Bridge/Lake each gained one position. There was a total of 18 seasonal park technicians, 3 seasonal park aids, 1 subject-to-furlough assistant district naturalist, and 1 student intern. The park aids were hired to assist the rangers in campground operations, and their involvement in the full range of interpretive operations was minimal. John Good, former Superintendent of Everglades National Park as well as former Chief Naturalist at Yellowstone, served as a volunteer from May to September at Canyon. In addition to conducting geologic research, he led hikes to Mt. Washburn and Observation Peak, and escorted several parties of special visitors through the area. All seasonal employees were highly recommended for rehire in the 1982 season except one.

Some of the major accomplishments included revising and updating the winter guide to the Canyon area, improving the Mud Volcano Trail Guide, and continuing work on the rehabilitation of the Canyon Visitor Center. A team of exhibit planners from Harpers Ferry Center visited Canyon in August to draft 10-238's for the project, and Bill Chapman's relief map was near completion at year's end.

Canyon: The winter program at Canyon continued to be popular with winter visitors. In the 1980-81 season, 94 guided Canyon Rim tours were offered to 912 visitors, and 7,736 visitors used the Canyon Warming Hut as compared to 7,311 in 1979-80.





The 1980-81 winter interpretive staff at Canyon was composed of park technician Mike Sutton and YACC corpsmember Mary Wunderlich. No winter seasonals were hired for the 1981-82 season, and three YACC corpsmembers assisted at the warming hut as well as roving Hayden Valley and the Canyon/Norris road.

The Canyon Visitor Center was open from June 1 to September 30. The warming hut was open for self-serve information in the spring and fall. Total visitation recorded at the visitor center was 246,771, as compared to 300,061 in 1980. The visitor center was open about 1 1/2 months less than in 1980, but attendance was up approximately 14%.

The heavy demand for information and interpretive services at the Canyon Visitor Center increased our reliance on VIPs to fill in the gaps left by the lack of seasonal park technicians. A minimum of two interpreters is needed at the visitor center throughout the day during the summer to meet the visitors' needs.

A total of 11,971 visitors went on 373 Canyon Rim Walks, an average of 32 per walk (up 22% from last year). The all day hike to Mt. Washburn was given 48 times to 1,241 people, down slightly from 1980. The evening slide program was attended by 28,693 people, up almost 60% from last year. However, the increase most likely resulted from the operation of the Canyon Campground which had been closed for the 1980 season.

The Canyon Visitor Center and staff hosted a series of talks on the park's geology, history, and natural history presented by professionals from nearby institutions as well as researchers associated with the park. Each was well attended by employees from the Park Service and concessions, as well as the public.

Lake/Fishing Bridge: The Fishing Bridge Visitor Center was open daily from June 14 to September 19. A total of 129,491 people visited the museum, up approximately 6% from last year. More time was spent in campground operations this year, but we were able to continue to offer the Storm Point and Pelican Creek walks on a daily basis to 6,642 people. Evening campfire programs at the Fishing Bridge and Bridge Bay amphitheaters were attended by 86,651 people, up approximately 15% from last year. Though offered few times during the summer, fishing and back-packing demonstrations were very popular and averaged over 100 people at each presentation.



The rustic architecture and traditional exhibits of the Fishing Bridge Visitor Center continue to be popular with visitors. Many people are pleased to find the natural history exhibits to help them identify what they see in the park.

Grant Village: The Grant Village Visitor Center was closed this season in an effort to cope with budget reductions. The staff was reduced to two seasonal park technicians who helped operate the ranger station as an information-YLMA publication sales facility. The number of interpretive programs offered at Grant was greatly reduced from previous years. A Thermal Basin Walk at West Thumb was offered 3 times a week or a total of 30 for the season to 1,787 people (60 per walk). An evening program at the Grant Village Amphitheater was offered twice weekly; a total of 19 programs were presented to 4,477 people. A program on the park's geology was presented nine times to 649 people.

The Grant staff reported that many visitors were disappointed at finding the visitor center closed and so few activities offered. The seasonal supervisor prepared a schedule for the 1982 season based on a staff of three people and an open visitor center. He feels that, while it's not a return to the staff size of previous years, it may be a reasonable compromise to restore some of the services the visitors are demanding.

West Thumb: The West Thumb Warming Hut (the old ranger station), is growing in popularity as winter visitors discover the beauty of this area. It was staffed with two YACC corpsmembers during the 1980-81 winter season. A total of 5,554 snowmobilers, snowcoach passengers, skiers, and snowshoers used the facility. Tours of the West Thumb Thermal Basin were given 120 times to 990 visitors. As the 1981-82 winter season starts, two YACC corpsmembers staff the facility and offer walks on demand.

3. North District (General): During 1981, North District naturalists offered interpretive services and information at Mammoth Hot Springs, Norris, and Tower. Fewer naturalists and the addition of duty at three campgrounds reduced what could be offered. Because the Norris and Tower staffs had already reached a minimal level, these reductions were concentrated at Mammoth.

From January 1 to May 31, the district interpretive staff consisted of the district naturalist, one full-time volunteer, and a YACC. These people were located at



Mammoth, where the Albright Visitor Center was open daily from 8:30 a.m. to 5:00 p.m. The Rangers' Mammoth subdistrict clerk was also important in maintaining this service.

The winter Wildlife Camera Safari was offered each Sunday from February 1 to March 22, with a naturalist interpreting wildlife and other topics over Citizens' Band radio to visitors in their vehicles. Of the eight programs offered, six were attended and drew 68 people in 16 cars, a disappointing decrease from 1980's 124 people. The unavailability of motel space in Gardiner because of a late hunting season and demand for rooms by workers on projects in the park and at the Jardine mine probably joined with weather and the price of gasoline to cause this year's decline. It was decided to try a different approach in 1982, offering only one program each month, changing the day to Saturday and the time to 9:00 a.m. rather than 8:00 a.m. The Gardiner Chamber of Commerce remains the co-sponsor of this program, providing the printing and distribution of a flyer and loaning CB receivers to participants needing them.

During the winter and spring, 13 special programs were presented to a total of 415 people. These ranged from tours of the Upper Terraces for high school groups to a talk on wildlife management for students from the University of Montana.

From October 1 to the end of the year, the North District staff included the district naturalist, one full-time volunteer, and two members of the YACC. The Albright Visitor Center was open from 8:30 a.m. to 5:00 p.m. every day except Christmas. In addition, the staff completed a large amount of work in the library and archives, and on functions supporting the district operation, such as the Mammoth area slide file. They also participated in the Resource Management Office's air quality monitoring project, the Mammoth fire brigade, and staffed the North Entrance Station on Saturdays.

In the paragraphs that follow, the summer season is described for each of the three subdistricts.

Mammoth: The staff consisted of an assistant district naturalist, GG-7; three GG-5 (two working for the first time as naturalists in Yellowstone); one permanent less-than-full-time GS-5; one Student Conservation Aid; and a YLMA clerk. In addition, Communications Specialist Bill Lewis was reassigned from division-wide duties to serve as a field naturalist on the Mammoth staff.



This group operated the Albright Visitor Center from 8:00 a.m. to 7:00 p.m. daily, assisted the Ranger Division in operating Mammoth and Indian Creek Campgrounds, and performed many hours of interpretive roving on the Mammoth Terraces. Upper Terrace Walks were offered five days a week, for a total of 56 presented to 1,596 visitors. Six walks were presented to 110 visitors in other areas on the terraces. Nightly evening slide programs at the Mammoth Motor Inn drew 9,256 people for 86 programs (week-ends only in September). Indian Creek campfire programs were presented 63 times to a total audience of 6,627. The twice weekly Fort Yellowstone Tour was popular with 1,270 visitors attending 19 programs.

Those programs offered were well attended. The 1980's experience showed that Lower Terrace Walks also meet a large need, but this year's staff size and duties did not permit even one walk each day of the week. In scheduling, we attempted to continue interpretive roving at a level which would ensure the safety of the public on the Terrace boardwalks and provide readily available interpretation, information, and protection for the formations.

In the visitor center, the movie "The Challenge of Yellowstone" and the slide program "Winter in Yellowstone" were shown alternately 3,014 times to 58,762 people. There were 200,633 people that entered the visitor center. At the request of the district naturalist, the Radio Shop made several modifications to the building's alarm system.

Data collected on the activity of the hot springs was compiled into a report at the season's end. Highlights included the sudden cessation of flow from Minerva Spring on July 12 for the first time since 1938. Although the spring was active again the next day, it did not return to its former volume, and the greater flow has since been away from the present boardwalks. Vents in the vicinity of Canary Spring have greatly increased their flow since last year and are rapidly building terraces. The spring which began flowing on Highland Terrace in June of 1978 is still active and produced a large area of runoff in the direction of the loop drive. A barrier of downed trees and brush was erected to reduce trampling by visitors and improve safety in the area of this spring. New Highland Terrace was again active this summer, although from different vents than in 1980. The spring on the south side of Narrow Gauge Terrace remained very active, with the main vent adding about a foot to the height of its mound.







Norris: The 1981 naturalist staff included three GG-5 seasonals with one acting as supervisor (a GG-6 position), and one YACC corpsmember. Only the supervisor had spent a previous season at Norris. Despite this fact and the addition of campground operation duty to an already busy list of duties, the 1981 season was a very good one at Norris. Eighty-three campfire programs were presented to 6,940 visitors. There were 14,972 people that accompanied the naturalists on guided walks into Porcelain and Back Basins; 19,144 visitors listened to 329 short talks at popular Echinus Geyser; and an estimated 445,000 people came through the museum. On many days during the summer, the parking lot at Norris Geyser Basin was completely filled for much of the day. Stabilization and repair of the museum building by a crew using epoxy resins and other new techniques gave the opportunity to discuss historic preservation activities with the public.

Not far from Norris are other important thermal features; nine hikes introduced 307 visitors to Sylvan Springs at the west edge of Gibbon Meadows, and 316 visitors attended the nine walks to Artist Paint Pots. These trips to less often seen places are consistently praised by those attending as a good way of seeing things and places they might otherwise have missed.

One new program was offered this year, a walk for children aimed particularly at families staying in the campground. Seventy-three children attended this program, which was given nine times. During the three days closest to the full moon in July and August, six guided nighttime walks in the geyser basin drew 552 visitors. Finally, 13 special programs for a variety of groups and occasions, from teachers attending a Pennsylvania State environmental education course to the Perseid meteor shower, served 449 people.

As in previous years, the cooperation between divisions at Norris was notable. The naturalists were called out on a number of occasions to assist at accidents, sometimes as the initial response; at fires, and other situations. A number of severe thermal burns occurred as the result of visitors being off the paths, and these incidents were thoroughly investigated and documented.

Early in the season, Africa Geyser ceased its eruptions and a short while later, Sunday Geyser became an active thermal feature again, periodically spraying the nearest boardwalk. Multi-language signs, the first in a Yellowstone



thermal area, were erected to warn visitors away during eruptions. A fence was erected to keep people back from Steamvalve Spring, which reappeared during the winter near the restrooms. While a new geyser erupting to 50 feet developed in Porcelain Basin, Echinus remained the main attraction at Norris. Steamboat Geyser, for the second year in a row, did not have a major eruption.

Tower: As in the previous two years, the Tower naturalist staff consisted of one veteran GS-5 naturalist, Bill Baker. Bill led 24 hikes up Specimen Ridge to the fossil forest, which were attended by 600 visitors. A total of 423 people accompanied Bill on 24 hikes to Lost Lake, and 3,208 people attended 56 evening programs in the campground. Bill presented these programs four nights per week and the Tower area rangers covered Saturday night, speaking on such topics as park management and various aspects of the rangers' work.

Bill assisted Roosevelt Lodge's recreation specialist in preparing to offer children's programs and other activities for the lodge guests.

The interpretive sign at the Petrified Tree was replaced by one reflecting more recent scholarship in the subject of the fossil forest. A revised edition of Dr. Erling Dorf's booklet on this subject appeared, produced by the Harpers Ferry Center.

- C. Historian and Yellowstone Park Archives: The North District Naturalist is also Park Historian and Archivist and supervises the Curator and Librarians. During the year, 71 reference requests from the public, 41 from Yellowstone Park staff, and 13 from other NPS staff were answered. Some of these involved little research, others required extensive use of the archives and library. Members of the general public were interested in evidence of their ancestors' activities in Yellowstone, in the origin of park place names, the history of prominent buildings, and a host of other topics. People from academic settings requesting historical information ranged from a university history department chairman writing a general history of the park to a grade school child preparing a report on park rangers.

The historian maintained contact with a number of historical societies and museums with interests in Yellowstone National Park. Five submissions were made to the Yellowstone newsletter to increase local awareness of the park's history, its archives, and research library. Writing projects included an article on the history of skiing in the park for use in a newspaper printed for the nordic ski race at West Yellowstone. This was also submitted for use elsewhere. Information sheets were prepared on a variety of historical topics.



Much time was spent on historic structures: providing information to the Regional architectural historian for use in preparing nominations of park buildings to the National Register of Historic Places, coordinating the park's response to draft nominations, and working on revision of the List of Classified Structures. All of the front-country historical buildings were examined during two park-wide tours.

The historian presented a weekly program on historical topics at Indian Creek campground and reviewed other such presentations and the TWA orientation program for their historical accuracy. He assisted other interpreters with reference work on historical topics.

During the summer, the historian taped an oral history interview with Mrs. Frances (Pound) Wright, who served in the 1920's as the first woman ranger (exclusive of ranger-naturalists) in Yellowstone. Notes were also taken during conversations with other former park and concession employees who visited the park during the summer.

The archives facility was again inspected in August by Joel Barker, head of the Archives Branch of the Denver Federal Records Center. He made several useful suggestions for improvement. A large amount of additional shelving was ordered particularly to accommodate the Yellowstone Park Company records obtained last year. New material added to the archives during the year included files from several divisions, more material from the Yellowstone Park Company, and records of the YACC. Indexes were prepared for all correspondence on topics related to park history and place names, which will help prevent duplication in researching information requests. In April a curatorial training class held at Yellowstone for NPS curators from three regions included a brief session on maintaining archives.

- D. Library: The park's research library in the basement of the Albright Visitor Center is funded by the Yellowstone Library and Museum Association, which purchases subscriptions and books and pays two part-time librarians. The park historian supervises this facility. During 1981, 810 patrons used the library in addition to its daily use by the curator, historian, and visitor center staff. There were 120 new books added to the collection, including a number from the late nineteenth and early twentieth century which were donated to the park.

In the fall the project of arranging and indexing the map collection was begun by one of the North District YACC's and was 75% complete by year's end. Another YACC arranged and wrote a description of the Herma Baggle papers, donated to the park in early 1981. A volunteer put the microfiche of





Yellowstone's scrapbooks (news clippings mostly from the 1920's and 1930's about events in the park) into a useable order and began indexing them by person and subject. Another volunteer indexed the two files of Director Mather's correspondence in the library's manuscript collection. One of the YACC's assisted the librarians in adding 315 items to the vertical files (brief reports, articles, etc.). The librarians wrote 20 letters in answer to requests for information and handled a larger number over the phone.

Mention of the library in the "Special Activities" brochure distributed to all visitors during the summer brought many members of the public into the library and also resulted in donations of books. Visits by scholars, both professional and amateur, to use the library in preparing books and articles on Yellowstone attest to the importance of this facility to that portion of the public as well.

- E. Curator (General): In order to cope with budget cuts and a reduced seasonal staff, permanent employees spent more time in public contact activities. The curator was detailed to Old Faithful as Acting Sub-District Naturalist from June through most of September, and spent several days in May operating the visitor center. Also many days were spent at the Albright Visitor Center information desk and backcountry office to keep the facility open to the public when additional staff was unavailable. The curator led two Camera Safaris during the 1981 winter season, and assisted the Research Office in observing and documenting the condition of the diseased bighorn sheep.

The curator also serves as Federal Women's Program Manager, a collateral duty position. In addition to participating in EEO Committee activities, the curator was involved in planning and conducting the week-long Careers in Progress workshops in April. She was also selected to serve on a Rocky Mountain Region/Denver Service Center task force convened in Denver during the last week of April to prepare follow-up recommendations to the 1979 NPS Womens' Conference.

Museum Collections: A major reorganization of all collection storage was accomplished. Like objects were brought together, and storage space was organized according to collection categories. Racks were installed to improve the storage of saddles, bridles, and wooden skis. Plastic-coated chain link fence was stretched across one wall to improve storage conditions for artwork. Only one-third of the artwork and photographs can be accommodated due to limited space, however.

Catalog cards for archeological objects were updated as to storage location.





Six sketches executed during the early exploration of Yellowstone were loaned to the Smithsonian Travelling Exhibit Service until 1983. The Gilcrease Institute of American History and Art has developed an exhibit dealing with Western Art. We are exploring the possibility of loaning some artwork in exchange for the use of this exhibit in the Albright Visitor Center gallery.

Documents addressing the management, care, and development of the park's collections are undergoing revision. Specifically, the Scope of Collection Statement and the Collection Management Plan are being revised and updated to reflect the changes of the last few years.

The collection continues to grow through finds and/or donations by current and former park employees, and other generous individuals. Additionally, progress was made in identifying and removing from destructive use, those objects deemed historic in the Yellowstone Park Company inventory of items acquired by the National Park Service.

The training course, Museum Records and Basic Accountability, was presented in Yellowstone on April 14, 15, and 16, 1981. Instructors from Harpers Ferry Center and Regional Curators from National Capitol, Pacific Northwest, and Rocky Mountain Regions, conducted the training which drew 25 participants from three Regions. Yellowstone's collections were used to demonstrate storage techniques, environmental standards, and cataloging procedures. The curator and historian participated in the training and organized all local resources and support activities.

Visitor Center Exhibits: Albright Visitor Center--the curator worked with a contract taxidermist to clean and repair all bird and animal mounts in exhibits on the second floor of the visitor center. Additionally, each case was cleaned, burned out lights replaced, and labels identifying specimens or correcting errors, were added. The Moran exhibit was further stabilized to protect it from damage in the event of an earthquake. New albums were purchased for the photo-browsing tables.

Norris Museum--the Steamboat Geyser exhibit was repaired and eruption data for the last few year was added.

Waysides exhibits: The Golden Gate wayside exhibit was destroyed during blasting in the canyon but was replaced with a new, redesigned panel.

The money remaining in the curator's account as a result of the four month detail was used, in part, to contract for



rehabilitation of wayside exhibits. Four are currently being repaired, and 16 more are scheduled for attention.

All winter exhibit photographs (40-plus) were replaced with metalphotos. It is hoped that the metalphotos will last through several seasons of winter use and save the cost of replacing photographs every year.

Master Slide File: Over 2,000 slides were accessioned and cross-indexed into the file. Slide storage was greatly improved, and a finder's guide was developed to speed the location of slides. An inventory of the file was also accomplished. The master slide file continues to serve as an important resource for all park employees, not just those concerned with summer interpretive programs.

Publications: the Special Activities brochure was distributed to visitors at all entrance gates and visitor centers again in 1981. A large summer issue was produced, and smaller spring and autumn leaflets were distributed during those seasons. The curator coordinated all phases of the production and distribution of the leaflets. Approximately 700,000 leaflets were distributed during the year.

- F. Yellowstone Library and Museum Association: The Association's income was up approximately 25% this year compared to last year. Grant Village Visitor Center was closed this season which closed one of our sales outlets and affected our final income slightly. Final figures on Association operations and donations to the National Park Service are not available at this time pending completion of the annual audit.

One major publication is still in progress, Yellowstone Fish. It should be available by spring opening. Norris Geyser Basin and Yellowstone Waterfalls are still in preparation.

Matching funds were provided to Grant-Kohrs National Historic Site, for the final step on their oral history project, by the Montana Committee on the Humanities.

The Board of Directors have two new members: Drs. Alston Chase and Bill Tietz. Member Monte Later reached the limit of his terms and will become a member of the Advisory Board.

A major activity of the Association was the continuing operation of the Yellowstone Institute. It had a very successful season, aided by funds from the Department of Energy. Plans for expanding the Institute are still in progress and should be completed by the summer season.



- G. Big Hole National Battlefield: Yellowstone continues to provide staff and technical assistance to Big Hole National Battlefield with major maintenance projects, interpretation, and resources evaluation, and planning.
- H. Status of Planning: A new parkwide Interpretive Plan is in the final stages of completion and will document all existing media and provide overall coordination and improvements of non-personal facilities. The Rocky Mountain Regional Office participated in the initial preparation of the plan through the assistance of Interpretive Planner John Reed. The park staff was involved in the review and editing phase of the draft document.



#### IV. RESOURCE MANAGEMENT AND VISITOR PROTECTION

- A. General: In 1981, district clerks were administered under the Ranger and Interpretive Divisions rather than the Administration Division, adding two career positions to the ranger workforce. Eight new persons entered the division in 1981, including three rangers and five support staff.

Because of anticipated funding cuts for FY 81, the seasonal workforce was reduced on October 1, to 21 employees, compared to 54 in 1980. All seasonal personnel except two were terminated October 18, leaving only the permanent staff in the field for the duration of the winter season. In 1980, the Ranger Division employed 14 winter seasonal personnel in the districts.

The staff was composed of the following:

##### 1. Supervisory - Permanent and Subject-to-furlough

- a. Thomas O. Hobbs - Chief Park Ranger
- b. Norman A. Bishop - Resource Management Specialist
- c. Gary Brown - Forestry, Fire and Bear Management Specialist
- d. Robert J. Mihan - Law Enforcement Specialist
- e. Thomas R. Black - Emergency and Air Operations Specialist
- f. John Lounsbury - Canyon District Ranger
- g. John Donaldson - South Entrance Area Ranger
- h. Anthony Sisto - Old Faithful Area Ranger
- i. Robert Mahn - Lake Area Ranger
- j. Steve Martin - Old Faithful District Ranger
- k. Stewart Orgill - Gallatin Area Ranger
- l. Ron Sprinkle - East Entrance Area Ranger
- m. Jesse Rivera - North Entrance Area Ranger
- n. Judy Kunc1 - Madison Area Ranger
- o. Pat Ozment - Grant Village Area Ranger
- p. Douglas Barnard - West District Ranger
- q. Richard T. Danforth - North District Ranger
- r. David Spirtes - Tower Area Ranger
- s. Marv Miller - Northeast Entrance Area Ranger
- t. Dunbar Susong - Bechler Area Ranger
- u. Timothy Blank - Lake District Ranger
- v. Gerald Mernin - Snake River District Ranger
- w. Norma Turner - Communications Center Supervisor
- x. James N. Sweaney - Supervisory Forestry Technician

##### 2. Non-Supervisory - Permanent and Subject-to-furlough

- a. Ruth Cothrun - Staff Assistant
- b. Wayne Hamilton - Physical Science Coordinator
- c. Evelyn Ringsby - Management Assistant
- d. Laura Bittner - Law Enforcement Clerk
- e. Joan Larsen - West District Clerk





- f. Sandi Fowler - Park Technician, Resource Management
- g. Kathy Smyth - Chief Ranger's Secretary
- h. Rick Hutchinson - Park Geologist
- i. James Hotchkiss - Animal Packer
- j. Gary Dunning - Smokejumper
- k. Mary Ann Straiski - Telephone Operator
- l. Shirley Squire - Dispatcher
- m. Mona Divine - Lead Dispatcher
- n. Ray Puglsey - Lead Dispatcher
- o. Fred VanHorn - Lead Dispatcher
- p. Jan Reimer - North District Clerk

### 3. Supervisory Seasonals

- a. Chuck Bolle - Forestry
- b. Chet Cantrell (STF) - Old Faithful
- c. Bill Crum - Northeast Entrance
- d. Les Herman - Helicopter Operations (Mammoth)
- e. Gerry Jones (STF) - Grant Village
- f. Chet Keller (STF) - Madison
- g. Bud Ross (STF) - South Entrance
- h. Denman Smith (STF) - Lake
- i. Ted Weight (STF) - North
- j. Doyle Yaney (STF) - North

4. Non-supervisory Seasonals: The division had a total of 110 seasonals with 44 new persons in 1981, plus 1 volunteer, 1 student intern, 9 Student Conservation Aids, and 12 Young Adult Conservation Corpsmembers.

- B. Law Enforcement: Stephen E. Cole was appointed as U.S. Magistrate for Yellowstone National Park by the District Court of Wyoming in May.

Mr. Kenneth Rolland assisted as an intern of the U.S. Attorney's Office during the summer months.

Mr. Richard Stacy was appointed as U.S. Attorney for the District of Wyoming to replace Mr. Charles Graves, who resigned in April.

Mr. Byron (Pete) Dunbar was appointed U.S. Attorney for the District of Montana. Pete was a familiar figure to park rangers when he was the resident agent in charge of the FBI Bozeman office.

Assistant U.S. Attorney Jeff Fisher was killed in the crash of his private plane in November. Jeff had always been of great assistance to this park during his tenure in Cheyenne.

Two mandatory 40-hour refresher courses were held during the year, training a total of 73 rangers. These sessions are held for the purpose of providing training required by Service-wide policy.



VISITATION

		% of 76
1976	2,525,174	--
1977	2,487,084	-1.51
1978	2,623,141	3.88
1979	1,895,169	-24.95
1980	2,018,852	-20.05
1981	2,549,307	.96

PERSONNEL

		% of 76
1976	203	--
1977	191	-5.10
1978	200	-1.48
1979	185	-8.87
1980	158	-22.17
1981	160	-21.18

PART I OFFENSES

		% of 76
1976	270	--
1977	258	-4.44
1978	360	33.33
1979	280	3.70
1980	320	18.52
1981	351	30.00

PART II OFFENSES

		% of 76
1976	143	--
1977	163	13.99
1978	259	81.12
1979	294	105.59
1980	423	195.80
1981	788	451.05

SERVICE INCIDENTS

		% of 76
1976	1,183	--
1977	1,324	11.92
1978	1,307	10.48
1979	1,096	-7.35
1980	1,305	10.31
1981	1,526	28.99

COURT CASES (only those heard in YNP)

		% of 76
1976	50	--
1977	45	-10.00
1978	62	24.00
1979	70	40.00
1980	64	28.00
1981	106	112.00

VIOLATION NOTICES

		% of 76
1976	549	--
1977	569	3.64
1978	1,237	125.32
1979	1,046	90.53
1980	1,028	87.25
1981	1,109	102.00

WARNINGS

		% of 76
1976	2,472	--
1977	2,547	3.00
1978	2,807	13.55
1979	2,630	6.39
1980	2,173	-12.09
1981	1,899	-23.18

TRAFFIC ACCIDENTS

		% of 76
1976	420	--
1977	423	0.70
1978	500	19.05
1979	398	-7.40
1980	434	3.33
1981	499	18.81

FATALITIES (Accidental deaths only)

		% of 76
1976	2	--
1977	5	150.00
1978	5	150.00
1979	3	50.00
1980	5	150.00
1981	7	250.00



PERSONAL INJURIES

		% of 76
1976	349	--
1977	315	-9.74
1978	513	46.99
1979	414	18.63
1980	385	10.32
1981	488	39.83

SEARCH AND RESCUE

		% of 76
1976	33	--
1977	15	-54.55
1978	41	24.20
1979	36	9.09
1980	45	36.36
1981	55	66.67

PROPERTY LOSS \$

		% of 76
1976	380,450	--
1977	471,379	23.90
1978	620,383	63.07
1979	585,740	53.96
1980	683,113	79.55
1981	721,217	89.57

CAR CLOUTS

		% of 76
1976	73	--
1981	215	194.52

CASE INCIDENT REPORTS

		% of 76
1976	1,832	--
1981	3,251	77.46

PART I CRIMES

Nation (1979) 1 per 18.11 people  
Yellowstone (1981) 351 per 2,549,307 = 1 per 7,263 people



Part I, or serious offenses, totaled 351 for the year, with a property loss of \$182,021, of which \$30,200 was recovered. Over 1,100 violation notices were issued, and 499 motor vehicle accidents were investigated. The U.S. Magistrate heard 106 cases, and 9 cases were forwarded to the U.S. District Court in Cheyenne.

A Rangemaster course was held with the assistance of the FBI. Ten rangers received instruction in safety, maintenance, and policy considerations in regard to firearms.

- C. Tort Claims: During 1981 there were 27 claims filed, none of major consequence. The Melvin Ford case was settled out of court for a minimal amount to preclude further expense to the Government.
- D. Weather Conditions: The average temperatures for the year were 34.4° at Old Faithful, 36.2° at Snake River and 34.1° at Yellowstone Lake.

The maximum temperature for 1981 was 92° on August 26 at Tower Junction. The minimum temperature was -49° on February 11 at Old Faithful.

The yearly precipitation measured 13.87 inches at Mammoth, 2.72 inches below normal; 15.32 inches for Tower Falls, 2.54 inches below normal; 23.00 inches at Yellowstone Lake, 3.29 inches above normal; 25.14 inches for Old Faithful, and 30.66 inches for Snake River.

For precipitation, the greatest day was 1.71 inches of rain on June 8, at Snake River Ranger Station.

Only two snow courses had enough snow to be measured on May 1. The Lewis Divide snow course was 53% of normal and the 21-mile course was 26% of normal.

On January 1, half of the snow courses were 50% or less of normal, the others were 50-81% of normal.

On February 1, all courses measured less than 50% of normal.

On March 1, all snow courses measured 71% or less of normal, and on April 1 all courses measured 56% or less of normal.

At no time during the 1981 winter did a snow course reach more than 81% of normal.

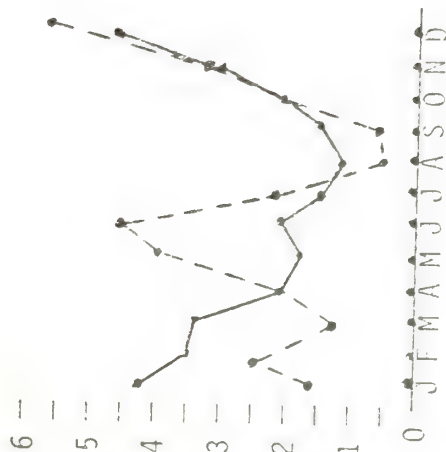




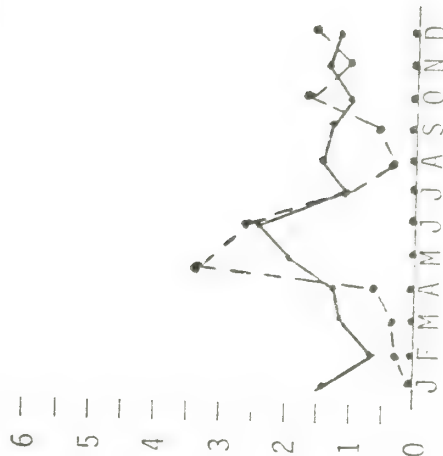
# 1981 PRECIPITATION

Average Monthly Precipitation\* \_\_\_\_\_ 1981 Monthly Precipitation -----

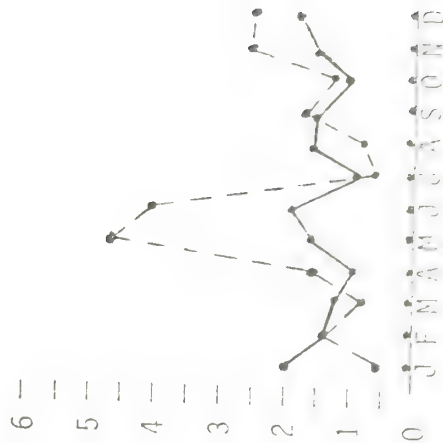
SNAKE RIVER  
Total for the year = 30.66



MAMMOTH  
Total for the year = 13.87



YELLOWSTONE LAKE  
Total for the year = 23.00



Months

\*From the 1977 Climatological Studies of Yellowstone, Department of Atmospheric Science, University of Wyoming.



## E. Fish and Wildlife Management

1. United States Fish and Wildlife Service Technical Assistance Project: The Yellowstone fishery was monitored for the ninth year by the Volunteer Fisherman Report (VFR) cards in conjunction with park fishing permits. During 1981, 159,995 fishermen fished over 383,361 angler days in the park. These figures represent a substantial increase over 1980. If this trend continues, additional regulations will be necessary to protect the fishery.

The backcountry lake survey program, begun in the early 1960's, completed three lakes in 1981. The backcountry stream survey program, started in 1979, completed work on two streams and started work on two others.

Yellowstone Lake: Spawning traps on Pelican and Clear Creeks were run during the season. Both upstream and downstream migrant trout runs were enumerated on Clear and Pelican Creeks. Annual gillnetting of Yellowstone Lake was accomplished to evaluate effects of regulation changes, population trends and sucker destruction. The limnological study to evaluate the effects of the monthly sampling and data analysis. Park YCC crews assisted us during the summer in collecting data and repairing the Pelican Creek fish trap. The park YACC program provided us with four crew members for the summer program and two for the winter program.

Yellowstone River: The annual monitoring of the spawning population at LeHardy's Rapids was accomplished.

A substantial amount of time was spent on assistance to independent researchers studying various aspects of aquatic systems in the park. Fish were collected from Sedge Creek and moved to the Teton Wilderness Area south of the park in a continuing program with the Wyoming Game and Fish Commission.

Bob Gresswell and John Varley wrote a paper on "The effects of a century of human influence on the cutthroat trout of Yellowstone Lake." Bob Gresswell presented the paper at the 111th Annual Meeting of the American Fisheries Society in Albuquerque, New Mexico.

The Annual Technical Report for our aquatic and fishery management program in Yellowstone National Park was completed and has been distributed. Information included in this report was the result of data collected during the 1980 calendar year and encompasses an in-depth view of all facets of our project activities.

2. Wildlife Management: A late elk hunting season was set in Montana Hunting District 313 north of Gardiner and east of Corwin Springs from December 12, 1980, to February 16, 1981. Special



permits were for 4-day periods in December; and 2-day periods in January and February, in an attempt to allow redistribution of animals 3 days weekly. The dates were not flexible to follow the actual arrival of migrants from Yellowstone, although a flexible date has been consistently recommended to the State by the park. In the late hunt, 2,550 permits were issued; only 1,109 hunters went afield. A total of 126 legal elk were harvested, due to poor hunting conditions (no severe winter weather to cause many park elk to migrate). Articles in the press have speculated that two mild winters have allowed many elk to survive; further, that the population is bound to increase and cause range damage. Research data and censuses to-date indicate instead that the northern Yellowstone elk herd has equilibrated at or about at ecological carrying capacity and that no adverse vegetation changes are occurring due to elk grazing.

There were 28 grizzly, 36 black, and 7 unknown species of bear observed in developed areas during 1981. Backcountry observations totaled 470 grizzly, 540 black, and 140 unknown species of bear.

One backcountry bear-human encounter resulted in injury to a park visitor from Bozeman, Montana, when she came upon a sow grizzly with her cub while hiking with her family on the Mystic Falls trail in the Old Faithful district.

During the re-collaring of a female grizzly bear near Canyon Junction, a researcher with the Interagency Grizzly Bear Study Team was bitten when the bear unexpectedly came out of the drug. The injuries were minor.

One individual was injured by a black bear. He and a companion were illegally camped near Madison Campground and were awakened by the bear. The injuries were minor.

One unknown species of bear bit a hiker on the foot as the hiker attempted to climb a tree. The incident occurred along the Yellowstone River Trail and the injury was minor.

There were a total of 11 confrontations; 6 by grizzly, 4 by black, and 1 by an unknown species of bear.

Damages for the year totaled 18, for a reported loss of \$790. Five damages were by grizzly, 5 by black, and 8 by unknown species of bear.

Eight grizzly and two black bears were trapped in developed areas and relocated to other parts of the park during the 1981 season. There were no management kills this season and there were two known natural deaths of grizzly bears.



Park personnel in cooperation with the States of Montana and Wyoming, were involved in 21 relocations of grizzly bears trapped outside the park. Of the 21 relocations, 19 were released within the park's boundaries. Two grizzlies trapped outside the park, one by the State of Montana and the other by the State of Wyoming, were relocated outside the park using park personnel and the park contract helicopter.

The Antelope Creek drainage, east of the road from Tower Junction to Canyon Junction, was closed for the 1981 season. The area was being used as a bear research trapping location for the Interagency Grizzly Bear Study Team.

During the 1981 season, the Interagency Grizzly Bear Study Team radio collared 22 new bears. Of the 22 trapped, 5 were trapped and collared in the park by the research team. Four bears were collared after they had been trapped for management reasons by the Park Service. Seven grizzly bears were radio collared after being trapped by the State of Montana in the Gardiner and Cooke City areas. The remaining six were trapped and collared in Wyoming by State personnel for either research and/or management purposes.

There were 487 radio locations during the 1981 season.

3. Threats to Park Resources and Monitoring: Mining and Mining-Related Activity - In 1981 activity centered on three operations within the park watershed. Homestake Mining Company continued exploration in the Jardine and Crevice areas while initiating, through WESTECH, its consultant, a number of environmental baseline studies in anticipation of renewed mining activity. Studies relating to potential environmental impact on the park include: surface water quality, fishery, aquatic invertebrates, terrestrial wildlife, and air quality. In November, with continuing declines in metals prices, Homestake announced that it was putting the Jardine project on "reserve status," that exploration activity would cease, all but a few office staff would be taken off the project, but all of the above baseline studies would run to completion. We shall continue to keep informed and provide input at Task Force meetings on a bi-monthly basis.

ASTRA Minerals, Inc., worked with the Gardiner District Office, of the U.S. Forest Service in preparation of a plan of operation for reclamation and recovery of gold values from abandoned mill tailings alongside Soda Butte Creek in Cooke City. In various meetings with ASTRA, the Forest Service, State of Montana, National Park Service, and other agencies continued to press for environmental safeguards while supporting the overall goal of reducing acid mine drainage from the tailings. ASTRA is continuing to work on its mining plan, and the Forest Service expects that they will initiate work on the plan of operation and environmental assessment in 1982.





While the Irma Mine did not operate in 1981, the owner completed a mineral survey on a hardrock claim in the Republic Creek drainage. Currently the Forest Service is conducting a validity determination for the application for patent.

There was no activity at the Mohawk Mine or Woody Creek. Lulu Ranchers Exploration continued to show interest in open pit mining in the Lulu Pass area, outside the park watershed.

**Oil and Gas Activity** - The primary activity during 1981 was in relation to lease applications in the Hebgen Lake District of the Gallatin National Forest and the Washakie Wilderness.

The Forest Service issued a Finding of No Significant Impact and Environmental Assessment on leasing north and west of West Yellowstone that recommends issuing Federal leases along the park boundary over a distance of 8.25 miles. Listed stipulations could permit surface occupancy along the boundary over a distance of four miles. Lease applications have been returned with recommendations to the Bureau of Land Management for approval. The action is now under administrative review by the Secretary of Interior because the Madison Gallatin Alliance has requested a full environmental impact statement.

Also during 1981, the Shoshone National Forest completed a draft Environmental Impact Statement on Oil and Gas Leasing within the Washakie Wilderness. The EIS considers lease applications covering nearly one-half million acres within the Wilderness. Geophysical exploration and leasing activities would intrude upon the habitat of the grizzly bear, the American peregrin falcon, the bald eagle, and the Northern Rocky Mountain wolf as well as other species in the Greater Yellowstone Ecosystem. Moreover, if approved, these activities would constitute one of the first such authorizations in the wilderness system of the United States, perhaps opening the door further to the concept of multiple use of wilderness elsewhere in the nation. The Forest Service preferred alternative would permit leasing (with no surface occupancy) south of the East Entrance over a distance of approximately one-half mile along the park boundary.

Oil and gas lease applications are located as close as three miles from the park boundary in the Targhee National Forest in the Falls River area. Decisions there are still awaiting resolution of the geothermal leasing issue.

It has been learned that leases have been issued in the Teton, Absaroka-Beartooth, and North Absaroka wilderness areas, presumably because of location errors on the applications. We have been informed that these leases lie well outside park watershed.



Geothermal Leasing Activity - Geothermal lease applications remain on file with the Forest Service for lands along nine miles of the park boundary on the southwest side along with additional thousands of acres of land in the Island Park Geothermal Area (IPGA) near Yellowstone. The IPGA Environmental Impact Statement has effectively postponed issuance of leases over the past year while legislation has been advanced to provide additional protection to the park. The Superintendent presented the Departmental position at a Senate hearing before Senator Wallop in Casper, Wyoming, on December 12. We were much encouraged by the statements of Senators Wallop and Melcher to the effect that legislation should provide protection that would guarantee no impact from geothermal development on thermal features in Yellowstone as provided for in the Santini Amendment.

At the end of the year it was learned that the Forest Service was revising the preferred alternative of the IPGA EIS to effectively eliminate the deferred lease zone in response to appeals from lease applicants. We may become entirely dependent on legislation to protect the park.

Water Resources - Adjudication of water by the State of Montana required that the park file on surface and groundwaters as well as consumptive uses in the Montana sector of the park in 1981. The park provided data specifying stream stems to be included and gratefully acknowledges the completion of the filing by Regional Office staff.

Monthly water sampling and discharge measurements of Soda Butte, Hellroaring, and Slough Creeks were conducted by the Fisheries Assistance Office to establish baseline water chemistry and hydrographs for these streams in anticipation of future developments outside the park in those watersheds.

Air Quality - The National Atmospheric Deposition Program acid precipitation monitoring continued operating through the year showing acidic precipitation to be common at Tower Ranger Station during the summer and fall.

The particulate monitoring program was shut down at the request of the contractor, University of California, Davis, until funding can be resumed, hopefully in April.

Visibility monitoring was initiated with the assistance of Homestake Mining Company, for support of quality assurance and data analysis, and the Regional Office, who provided the telephotometer. The program will provide baseline data on visibility north and east of park headquarters in anticipation of developments near the park, particularly Homestake's Jardine Gold Prospect.



Seismic Network - The Yellowstone Seismic Network was shut down, with the exception of two seismographs recording on helicorders at Mammoth and Old Faithful, because of budget cuts in the USGS Geothermal Program and Volcano Hazards Program.

- F. Wilderness and Backcountry Management: A human impact inventory of backcountry campsites was conducted by the Resource Management Specialist, aided by a Resource Management Aid, several YACC, and two interns. Nearly every one of the 370 backcountry campsites in the park was visited, inventoried and photographed, and the data punched onto keysort cards. Use data for 1977-81 is also entered on the cards.

There were 24,143 people for a total of 55,060 visitor-use-nights using Yellowstone's backcountry overnight during the 1981 season. Compared to 1980, the number of people were up slightly. The percent of visitors to the park using the backcountry for overnight purposes was .9% in 1981, 1.2% in 1980, 1.3% in 1979, and .9% in 1978. The number of stock used in the backcountry during 1981 was 1,959, and the total number of stock use nights was 6,285. The number of stock was up 153 animals but the stock use nights were down 407 from 1980.

- G. Park Visitation: The park was open for public travel on the traditional May 1 opening date; however, some of the areas were accessible as early as April 22. The Beartooth Highway was open for travel by May 23.

Road closures for the winter began October 20 when the Beartooth Highway and operation of the Northeast Entrance were closed for the season. The East and South Entrances closed on November 14 and the West Entrance closed November 15, after the first heavy snow storm. The road from Mammoth to Northeast remained open to the public. The park opened for winter travel on December 17.

Annual park visitation totaled 2,549,307 persons for 1981. This total reflects an increase of 530,455 persons, or 26.28% over the 1980 season. Winter visitation (November 1 through December 31, 1980, and January 1 through April 30, 1981,) totaled 145,502 persons. This is a 7%, (12,338 person) decrease from the previous year during the same time period.

- H. Lost and Found Summary: The Visitor Services Office issued 2,471 found numbers to individual items located in the park. Of these, 653 were either claimed or returned to the finder or owner by mail for an approximate 26% return rate. One hundred sixty-four pair of eyeglasses (including cases and contact lens) were donated to the Eyes for the Needy.



# PERCENT OF INCREASE IN BACKCOUNTRY USE



- Number of people in the backcountry (overnight)
- Visitor use nights in the backcountry
- .-.-.-.- Total number of visitors to the park





I. Entrance and User Fee Collections:

<u>Station</u>	<u>Summer</u>	<u>Winter</u>	<u>Golden Eagle Passports</u>	<u>Total</u>
North	\$ 86,534.50	\$ 1,752.00	\$ 16,280.00	\$104,566.50
West	226,745.50	10,321.50	39,540.00	276,607.00
South	33,733.50	4,091.00	6,710.00	44,534.50
East	166,141.00	829.50	29,000.00	195,970.50
Northeast	48,087.00	--	7,880.00	55,967.00
Madison CG	--	139.10	--	139.10
Mammoth CG	--	202.00	--	202.00
TOTAL	\$561,241.50	\$17,335.10	\$ 99,410.00	\$677,986.60

In addition to fees collected from Single Visit Permits and Golden Eagle Passports, 9,937 Golden Age Passports were issued free of charge to persons 62 years of age or older. We also issued 210 Golden Access Passports. This was the first season for the Golden Access, this passport could be issued to persons medically determined to be blind or permanently disabled and as a result, are eligible for receiving benefits under Federal law.

Campground fees were collected in 14 campgrounds (12 regular and 2 group campgrounds). The amount collected totaled \$698,345.00, a 61% increase over the 1980 season. This large increase was a result of a raise in campground fees in both Class A and Class B Campgrounds.

J. Special Use and Park Supplier Permits: The Visitor Services Office issued 21 Special Use Permits and 135 Park Supplier Permits during 1981.K. Central Communications Center Records Summary:

	<u>1979</u>	<u>1980</u>	<u>1981</u>
Employee Vehicle Registration	2,785	2,540	2,943
Visitor Identification Notices	366	319	351
Backcountry Permits Recorded	7,870	8,101	7,959
Number of People on Permits	23,839	24,010	24,143



	<u>1979</u>	<u>1980</u>	<u>1981</u>
Teletype Messages Sent on Law Enforcement Teletype System	2,065	5,247	5,772
NCIC Inquiries	2,065	4,841	5,325
Wrecker Requests	547	547	655
Law Enforcement Record Checks	4,129	7,611	9,292
All Points Bulletins	40	47	32
Field Investigation Cards Files	1,334	1,285	1,122

#### L. Fire Management:

1. Structure Fire: Fire Brigade Training and inspections took place in all districts. Two minor fires occurred in the Old Faithful Inn and a cabin was destroyed by a gas explosion at Old Faithful. Total damage from fires totaled \$4,000 with no injuries or fatalities.

Facility improvements continued with the completion of fire escapes for concession dormitories at Lake, Mammoth, and Old Faithful. Hotel fire escapes were improved at Mammoth and Lake, and a fire pump was installed at Roosevelt Lodge. Construction is continuing on the Old Faithful Inn sprinkler system, pumper connections and wall board replacement. The roof of the Inn was resingled, but fireproofing was not included at this time due to historic structure restrictions. Work has not yet started on Hamilton Store fire escapes.

A dormitory, cafeteria, and cabins were intentionally burned to clean up the Fishing Bridge area.

The Old Faithful fire inspector resigned in mid-summer due to dissatisfaction with the job.

2. Wildland Fires: A very active season was due to hot dry weather during the summer and frequent lightning without usual thunderstorm precipitation. A total of 64 fires were reported with 57 of those caused by lightning. Twenty-eight fires were allowed to burn as natural prescribed fires, and totaled 20,243 acres. Thirty-six suppressed fires totaled 352 acres.

Fifteen of the natural fires were over 1/4 acre and 8 of these were over 100 acres. The largest was the Forest Lake Fire in the southern area of the park at 7,397 acres. The Forest Lake Fire was reported on August 29 and the fire management committee decided to allow the fire to burn with the assumption that it



would become a large fire. On September 1 it was reported by the air patrol to be between 15 and 20 acres in size. On September 12, 445 acres, and by September 13, it had grown to 776 acres. On the 14th it was decided that any fire south of the Snake River should be suppressed to keep the fire from entering the Bridger-Teton National Forest. Two monitors were sent to the fire. On the 16th, suppression began on several spot fires south of the river and by the 17th a major effort began to contain some 40 acres of spot fires and to burn out areas north of the river to reduce the spot fire hazard. During and after this operation the main fire continued to burn, following the north side of the Snake River.

Suppression of man-caused fires and natural fires not within prescription kept firefighters busy throughout the latter part of the summer. In addition to initial attack on small fires, there were five fires that required multiple crew forces. Assistance from interagency dispatching amounted to 80 fire jumps by USFS smokejumpers, 10 organized crew assignments, 5 outside helitack crews for air operations and numerous qualified individual overhead assignments. The Mesa Verde helicopter crew was requested but was not available.

Yellowstone was home for one of three NPS Interregional Hotshot Crews for most of the summer. They were assigned to two Yellowstone fires and seven for other agencies. An NPS crew was brought in from Grand Canyon late in the season and worked fires in Yellowstone and the Bridger-Teton National Forest.

Assistance to other agencies in addition to Hotshot Crew action consisted of overhead dispatches to BLM-Alaska, USFS-Gallatin National Forest, Bridger-Teton National Forest, Targhee National Forest, Custer National Forest, Salmon National Forest, and Grand Teton National Park. Once major injury occurred when a smokejumper suffered a fractured back. All other injuries were minor and there were no fatalities on park fires.

Critiques were held after each large fire and a Fire Review took place in the fall. The Washington Fire Management Office conducted the review, inviting Forest Service and National Park Service managers and scientists who reviewed the total fire management program. This was the first such review since 1972, when the Natural Fire Program was initiated in Yellowstone.

3. Helicopter Operations: The 1981 season began with the arrival of a military Chinook in January. The helicopter, owned by the U.S. Army, Fort Carson, Colorado, was in Mammoth for two days and used during the winter medicine course sponsored by West Park Hospital in Cody.



The Bell 47 helicopter usually based at West Yellowstone was not contracted this year due to personnel restrictions and the Alouette III arrived June 16 with a guarantee extended to 175 hours for the season.

On July 16 the Alouette crashed while on a routine project for the Soil Conservation Service. It was replaced by a Lama that completed the guarantee on September 8. Ten other helicopters were brought in for various assignments to supplement air operations during the summer. Total flight time for the 11 helicopters was 398.6 hours, with 200.6 hours attributed to an active forest fire season. There were only 10 search and rescue operations involving helicopters. Thirteen bears and three bear traps were transported.

The USGS contracted a Bell 47G for cartographic work. This aircraft was based at Canyon and was guaranteed 75 flight hours. On two occasions the St. Vincent's Hospital helicopter (Bell 206) provided medical transport from the park.

4. Search and Rescue: There were 16 search and rescue operations during the year involving 13 persons (4 missions were false alerts).

Lost persons	3	Hypothermia	1
Air crash	1	Thermal injury	2
Illness	2	Other injuries	3
Drowning	1		

#### M. Forestry Program:

1. Forestry Crew: The crew consisted of three persons this year. Approximately half of the manhours were spent on fire-related activities, including monitoring fires, record keeping, planning, providing overhead for large fires, and assisting with presuppression.

2. Exotic Weed Control: Spotted knapweed is a noxious weed that has recently been introduced into the area between Gardiner and Mammoth. The forestry crew constructed a distribution map of the plant. Eighty manhours were spent pulling and grubbing the plant out by hand in an attempt to prevent seeding. Some patches of dalmation toadflax found outside of the Mammoth area were also eradicated.

3. Hazard Tree Removal: The forestry crew removed trees from West Entrance, Madison, Indian Creek, Norris, and Lewis Campgrounds, and from the Grant Village and Mammoth areas. All wood was utilized for firewood within the park.





Park campgrounds were checked to determine the hazardous tree status. A control program is being established. Fourteen incidents involving property damage from falling trees were reported during 1981. One automobile and one trailer were destroyed.

4. Backcountry Clean-up: Several old dump sites were located. No backcountry clean-up or restoration was accomplished.



NAME OF AREA OR ACCOUNT TITLE	DATE OF INCIDENT	Type of Incident						NO. OF PERSONS RESCUED FROM STRAINED POSITION	NO. OF PERSONS INJURED	NO. OF FATALITIES	METHOD OF EVACUATION				MAN HOURS			COSTS			
		LOST PERSON	AIR CRASH	ILLNESS	DROWNING	MISC. ACCIDENT	CLIMBING				OWN POWER	FOOT	ANIMAL	AIR	OTHER	NPS REQ.	NPS O.T.	NON- NPS	PROGRAMMED (MANGER REGULAR TIME)	NOT PROGRAMMED (O.T., W.A.F., EQUIP., ETC.)	COSTS PAID BY OTHER AGENCIES OR PERSONS (EST.)
Fawn Pass	2-15-81	2						2			2				18			\$126			
Snow Pass	2-27-81					1		1						1	2			15			
Warm Creek	3-2-81	1						1			1				18			126			
Jellard Lake	3-7-81					1		1	1					1	9			70	\$20		
Hewell	6-25-81					1		1	1					1	5			687			
Lake Search.	7-1-81				?			F	A	L	S	E	A	L	R	M	9	18	189.03	992.73	
Ronanin	7-12-81					1		1	1					1			139		3197.15	1737.28	
Erdrnan	7-4-81					1		1	1					1	27	11		250	186.13	436.13	
Alouette III	7-16-81	1						4	1					1	24	12	24		3922.03	3322.03	
Sevensville	7-18-81			1				1						1	2				560		
Fullerton	7-20-81						1			1				1	163	57			9000		
Kerwin	7-20-81					1			1					1	24				684		
Gerardi	8-5-81							F	A	L	S	E	A	L	R	M	17		537.41		
Solution	8-10-81							F	A	L	S	E	A	L	R	M	3		543.70		
Callatin L.	8-15-81			1				1						1	18	36			1812.62		
Mount Doane	8-17-81							F	A	L	S	E	A	L	R	M	3	8	547.64		

(SEE REVERSE FOR INSTRUCTIONS)





1937 Permanent Ranger Staff





A grizzly bear before relocation,  
using a helicopter and a sling.









Interagency Grizzly Bear Study Team members putting a radio collar on a grizzly bear.



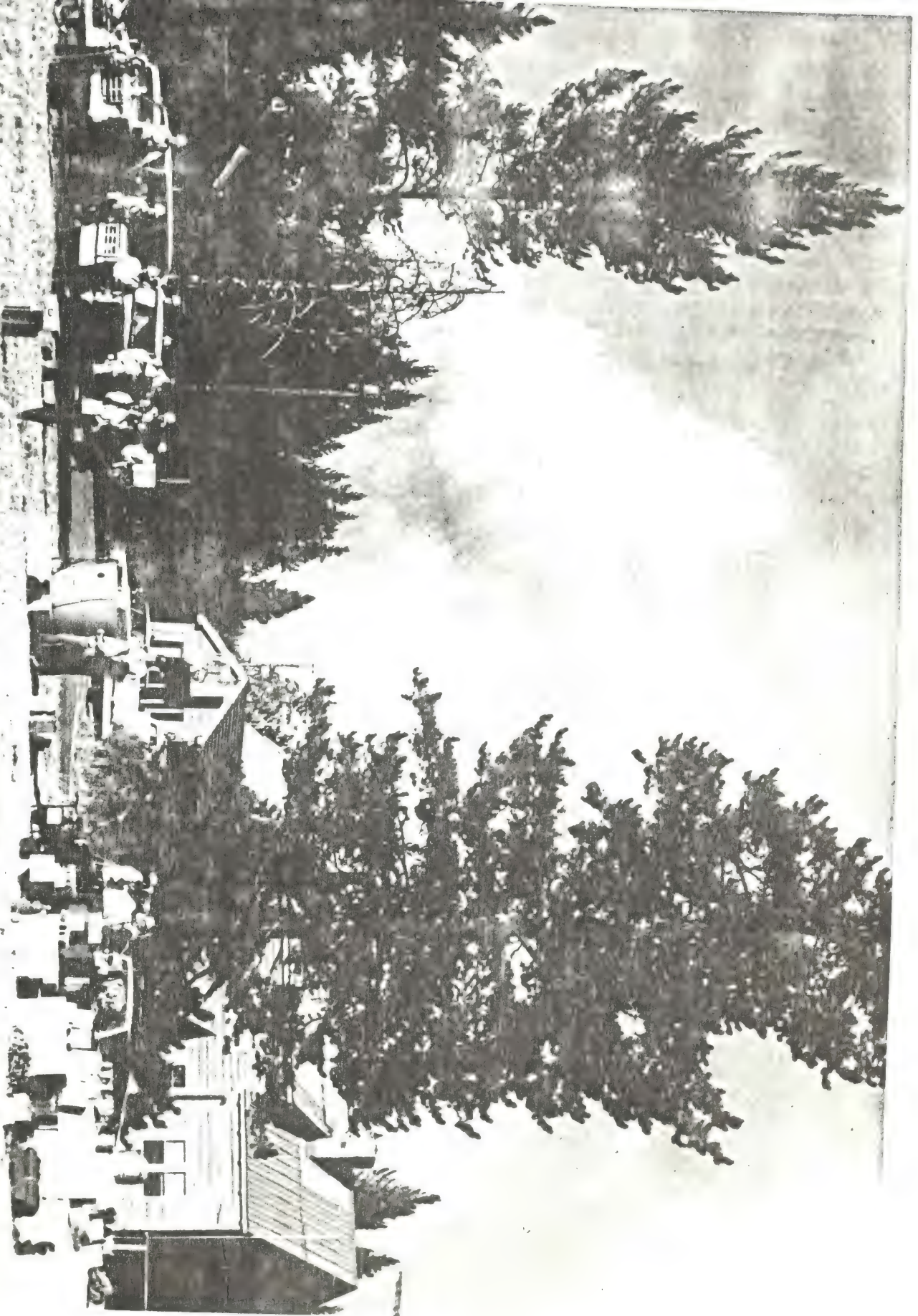


The relocation of a grizzly bear using a helicopter and a specially designed aluminum trap with a radio controlled door.





The Forest Lake Fire staging area  
at Snake River



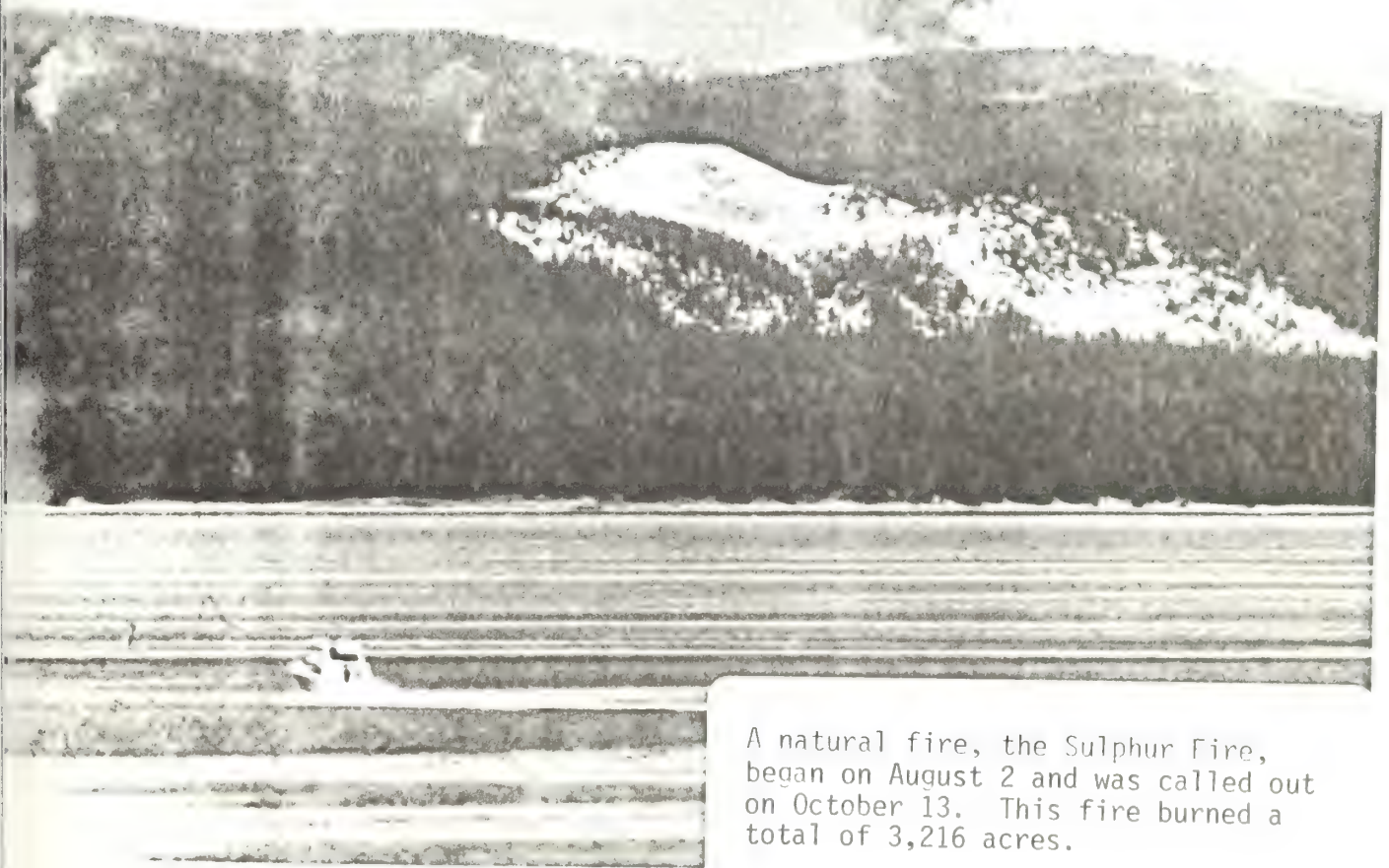


A natural fire, the Astrincant Fire,









A natural fire, the Sulphur Fire, began on August 2 and was called out on October 13. This fire burned a total of 3,216 acres.



## V. RESEARCH

- A. General: On May 4 and 5, Dr. Mary Meagher was in the Regional Office to assist in finalizing the Draft Grizzly Bear Environmental Impact Statement.

Dr. Don G. Despain attended the Annual Meeting of the Ecological Society of America in Bloomington, Indiana, August 16 through 20, and chaired the session on "Forest Ecology and Landscape Diversity."

On October 27, Dr. Despain went to Helena, Montana, to attend the Montana Map Advisory Committee Meeting. He learned of the resources available there and the status of U.S. Geological Survey mapping in this area.

Dr. Despain also attended the Third Rocky Mountain Rare Plant Conference, entitled "Energy Development and Rare Plants; Planning for the Future," in Denver on November 5 and 6. While in Denver, he worked with the Science and Remote Sensing Sections of the Denver Service Center on the transfer and digitizing of the habitat types and present forest overstory maps.

A total of 54 Collecting Permits were issued by the Research Office in 1981. The Research Office coordinated approximately 65 biological researchers/institutions which were either conducting active research in the park or were working with data collected in the park.

Physical Science Coordinator Wayne Hamilton was officially detailed to the Chief Ranger's Office in February. The Physical Science Coordinator position was officially transferred to the Ranger Division at the end of May. Physical science research coordination was transferred with the position.

Severe budget cuts prevented the hiring of any seasonal help and necessitated other cutbacks. This, combined with the necessity to provide extra technical assistance/liaison/backup for resource management and for other management needs this particular year precluded any appreciable amount of work on Research Office staff ongoing research projects. Likewise any new research was postponed.

At the request of incoming Bear Management Specialist Gary Brown, Dr. Meagher worked closely with all phases of bear management this year. This was an intensive year of dealing with bear problems because of help the park provided the States of Montana and Wyoming with relocation of grizzlies captured outside park boundaries. The use of specialized drug and handling techniques, coupled with the number of grizzlies to be transported, dictated that Dr. Meagher spend a major part of her time the latter part of summer on this topic. Through this close collaboration of research and management, we did much to refine our knowledge of the best handling of grizzly bears.



In December, blind bighorn sheep were reported in the Mt. Everts unit of the northern range population. Dr. Meagher organized a program to survey the incidence, determine the cause of the affliction, and assess the population consequences of the outbreak. Laboratory diagnostic tests indicated that the blindness was being caused by a "pinkeye" bacteria, Chlamydia. A full report will be in the 1982 Superintendent's Annual Report, as the condition continued into the next year.

Former Yellowstone research biologist (now with Olympic National Park) Dr. Douglas B. Houston signed a contract with McMillan and Co. to publish his monograph on "The Northern Yellowstone Elk." This monograph is the result of Dr. Houston's long-term, in-depth study of the Northern Yellowstone Elk herd. It is hoped that the publication will be available by late summer 1982. Dr. Houston has assigned royalties to the Yellowstone Library and Museum Association (YLMA). One-third of the royalties are to be used by the Board of Directors of YLMA for any purpose they wish. Two-thirds of the royalties are to be used to support additional research or monitoring of the flora and fauna of the northern winter range.

The habitat types and present forest overstory maps prepared by Dr. Despain were sent to the Science and Remote Sensing Sections of the Denver Service Center for transfer, digitizing, and printing. The manual portions of the work were nearly completed by the end of the year. Methods of machine digitizing are being developed and the project should be completed by mid-1982, providing the park with an impressive data base in machine compatible form.

Dr. Despain prepared a Draft Management Plan and Memorandum of Understanding between the National Park Service and the U.S. Fish and Wildlife Service for Agrostis rossiae (Ross bentgrass), which is presently known to occur only in the Upper Geyser Basin of the park. The program outlined by these documents should provide sufficient information regarding distribution and ecology to insure protection of this rare species from man-caused impacts.

The 1981 fire season was the most active since 1953. Dr. Despain spent August and September studying fire behavior and providing assistance to management with prediction and on-site assessments.

#### B. Research Accomplished - Resulting in Publications:

Taylor, Dale E., Biotic Succession of Lodgepole-Pine Forests of Fire Origin in Yellowstone National Park. National Geographic Society Research Reports, Volume 12, pp 693-702, 1980.

Ward, David M., Terminal Processes in the Anaerobic Degradation of an Algal-Bacterial Mat in a High-Sulfate Hot Spring. Applied and Environmental Microbiology, pp 67-74, July 1980.



Ward, David M., Fate of Immediate Methane Precursors in Low Sulfate Hot Spring Algal-Bacterial Mats. Applied Environmental Microbiology, Volume 41, Number 3, pp 775-782, 1981.

Theses Received:

Aune, Keith Edward, Impacts of Winter Recreationists on Wildlife in a Portion of Yellowstone National Park, Wyoming. Master's Thesis, Montana State University, 1981.

Eastwood, John D., Backcountry Use in Yellowstone National Park. Master's Thesis, University of Wyoming, August 1980.

Kendall, Katherine Clement, Bear Use of Pine Nuts. Master's Thesis, Montana State University, March 1981.

Swanson, Richard D., Some Aspects of the Biology of the Longnose Sucker in Yellowstone Lake, Yellowstone National Park, Wyoming. Master's Thesis, University of Wyoming, 1981.

Wood, Marilyn Anita, Small Mammal Communities after Two Recent Fires in Yellowstone National Park. Master's Thesis, Montana State University, 1981.





## VI. MAINTENANCE

- A. Buildings: The park's cyclic maintenance and repair/rehab projects have been held at a minimum this past year, resulting in the deferred maintenance of future projects. Major maintenance has been accomplished more on an emergency or crisis basis than a planned program basis. Most of the cyclic-type projects accomplished resulted from turnover in quarters occupancy or deferred maintenance beyond the useful life.

As the park's operating base continues to erode due to inflation and the absorption of wage increases, we attempt to salvage operating funds by working on special money projects such as health/life safety, energy retrofit and other day labor projects. This effort defers several typical repair/rehab projects until winter as we await for funding decisions. Projects are difficult to complete during the winter as seasonals are gone, use or lose annual leave is taken, and people are on furlough.

Projects completed were the rehab of three historic residences and repainting and repairs to eight other residences. The exterior of seven historic structures were painted. The Grant Village shop was essentially completed with some finish work remaining. The rehabilitation of the "Utah" dorm at Lake was completed providing housing for nineteen seasonals. The shop at Madison, as well as two apartments and a comfort station at Old Faithful, were reroofed.

Construction was begun on a new supply center shed for building materials; however, work was stopped when health/life safety projects were begun.

- B. Utilities: As was the case of buildings, cyclic projects and major repair/rehabilitation was limited to emergency-type situations or day labor projects. Two lift stations (Canyon and Mammoth) were totally rehabilitated including pumps, controls, floors, ventilation, etc., as they became non-functional. New pumps were installed at two lift stations at Madison, and a new well pump with controls was installed at Northeast Entrance.

A new well was drilled at Lewis Lake Campground to eliminate the marginal surface water source. Completion of the new system will occur by July 1982.

- C. Roads and Trails: Major roadwork during the summer consisted of 7.4 miles of rehabilitation overlay and 5.8 miles of seal coat. Modifications and additions were made to improve the hot mix plant. Centerline striping of 290 miles was completed. The Gardiner River bridge near Indian Creek Campground was rehabilitated including structural improvements, curbs and railings.



D. Energy Conservation: As a result of the Building Energy Audit in the summer of 1980, extensive retrofitting of park buildings was funded and accomplished.

1. Over 300 aluminum storm windows and 100 storm doors were installed, mostly on residences.

2. Another 100 wooden combination storm windows were fabricated and are being installed on those historic structures in Mammoth which were not already so equipped.

3. All significant use of incandescent lighting was converted to low wattage fluorescent type, and all existing fluorescent fixtures were changed to low wattage units.

4. Extensive insulation work was done on residences and some of the older buildings such as the Carpenter and Boiler shops. New foam-insulated roofs were installed at several locations.

5. More efficient thermostats and controls were added to boiler systems.

6. Replacement of oil-burning heating systems continued as more wood stoves were installed.

Last summer, all TWA Services buildings were energy-audited in the same manner as National Park Service buildings in the previous year. The survey forms have been sent to the Regional Office for computerization of the data.

During the fall, 43 solar domestic hot water systems were installed on residences throughout the park. These units were funded by the Department of Energy, designed by NASA, and installed under contract from the Regional Office. The work is over 90% complete and conservation benefits are anticipated in the coming year.

Two Maintenance Division pickups have been converted from gasoline to propane fuel and their performance is being monitored. Across-the-board conversions of the park fleet probably won't be practical but some gains can be anticipated if the experimental units are successful.

A comparison of 1981's energy conservation performances with that in 1980 is as follows:

	<u>Elect.</u> <u>kwhx10<sup>6</sup></u>	<u>Fuel Oil</u> <u>Galx10<sup>3</sup></u>	<u>LPG</u> <u>Galx10<sup>3</sup></u>	<u>Gasoline</u> <u>Galx10<sup>3</sup></u>	<u>Diesel</u> <u>Galx10<sup>3</sup></u>
FY 80	6.79	254	73.9	244	98
FY 81	6.37	182	67.5	227	114
% Change	-6	-18	-9	-7	+16



As shown, four of the five measurement categories display very favorable trends, especially the use of fuel oil for heating. The 72,000 gallons saved in the year are part of an overall reduction of 54% from the 391,000 gallons used in the base measurement year of 1975. On the other hand, the increase in the use of diesel fuel to about the same level as in 1979 is entirely attributable to the operation of the park's new "hot-mix" plant to support essential road maintenance.

- E. Health/Life Safety: Several projects at concessioner use facilities were undertaken or completed. These are detailed below:

#### Fire Escapes

-Mammoth Girls Dorm (3)	85%
-Mammoth Boys Dorm (2)	85%
-Mammoth Mens Dorm (1)	85%
-Old Faithful Girls Dorm (2)	100%
-Lake Girls Dorm (2)	100%
-Gardiner Garage (1)	75%
-Mammoth Motor Inn (1)	75%
-Lake Lodge (1)	60%
-Old Faithful Inn (2)	70%
-Canyon Lodge (1)	15%

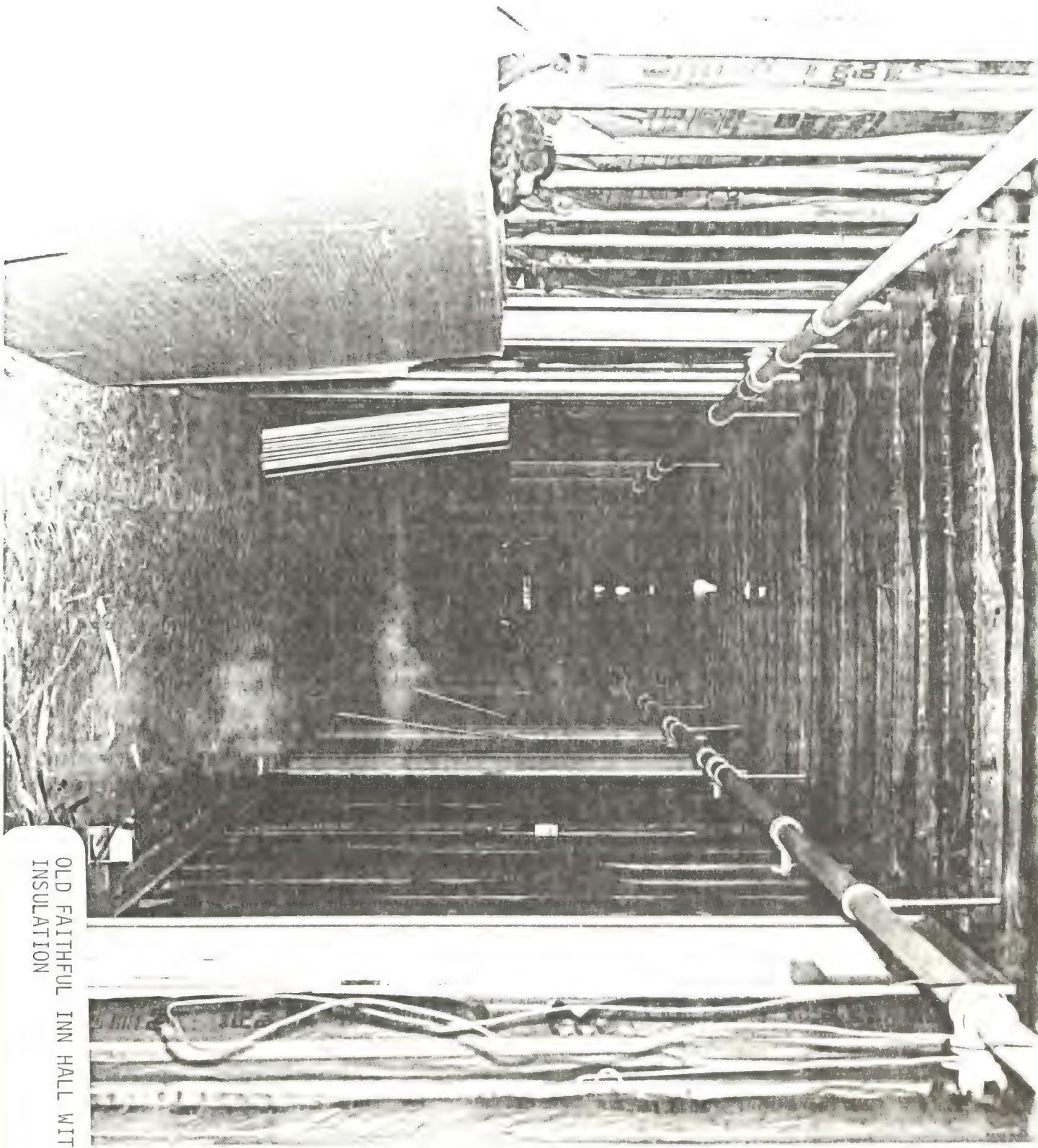
#### Fire Detection and Alarms

-Old Faithful Cabin Area	100%
-Mammoth Cabin Area	100%
-Roosevelt Cabin Area	100%
-Apartment Building #70	100%
-Madison Dorm	100%
-Mammoth Utah Dorm	100%
-O.F. Engineering Bunkhouse	100%
-Mammoth Mens Dorm	100%
-Mammoth Motor Inn	100%
-Lake Lodge Girls Dorm	100%

Other projects included new firehose and extinguishers in most public use buildings and new equipment to improve firefighting capabilities. Tamper-proof signal devices were installed on sprinkler system valves at the three major hotels. All doors and hardware were replaced and unused openings sealed at the Mammoth Motor Inn to meet Life Safety Codes.



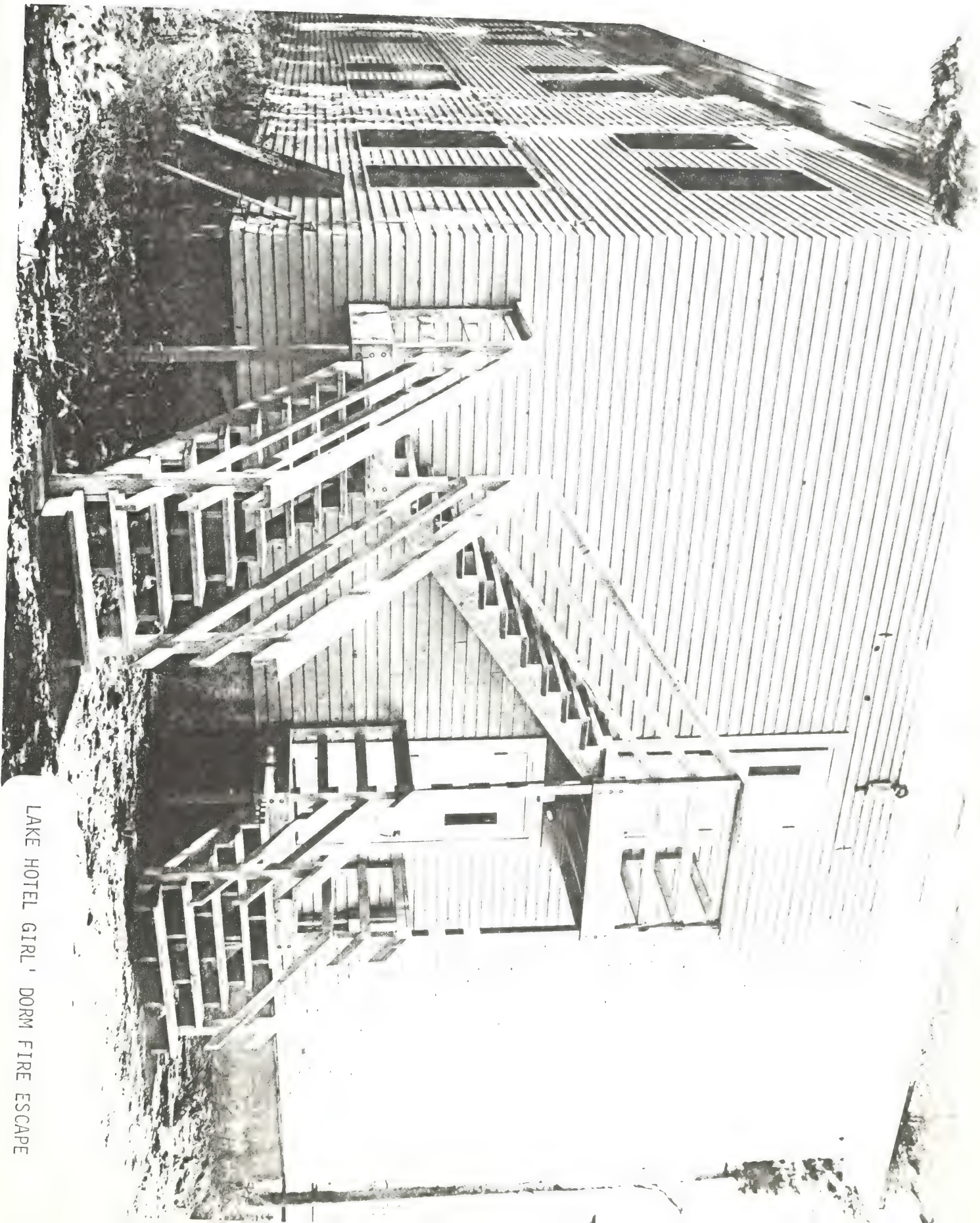




OLD FAITHFUL INN HALL WITH NEW INSULATION



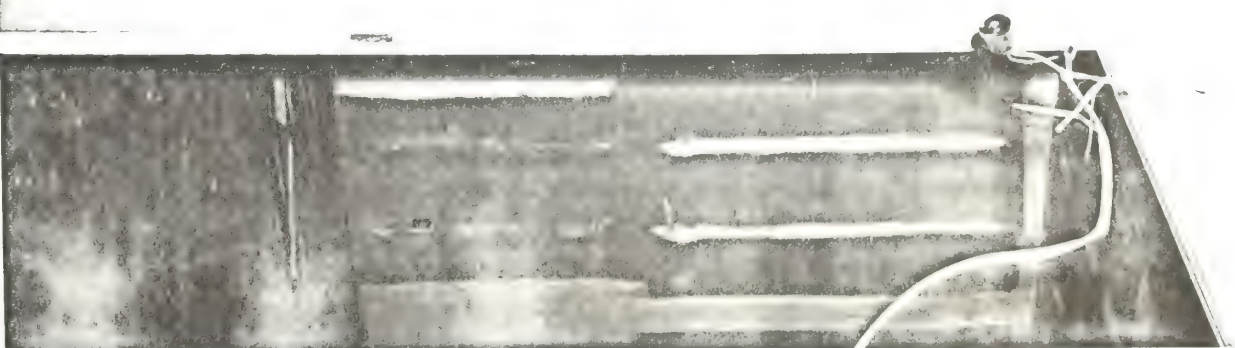
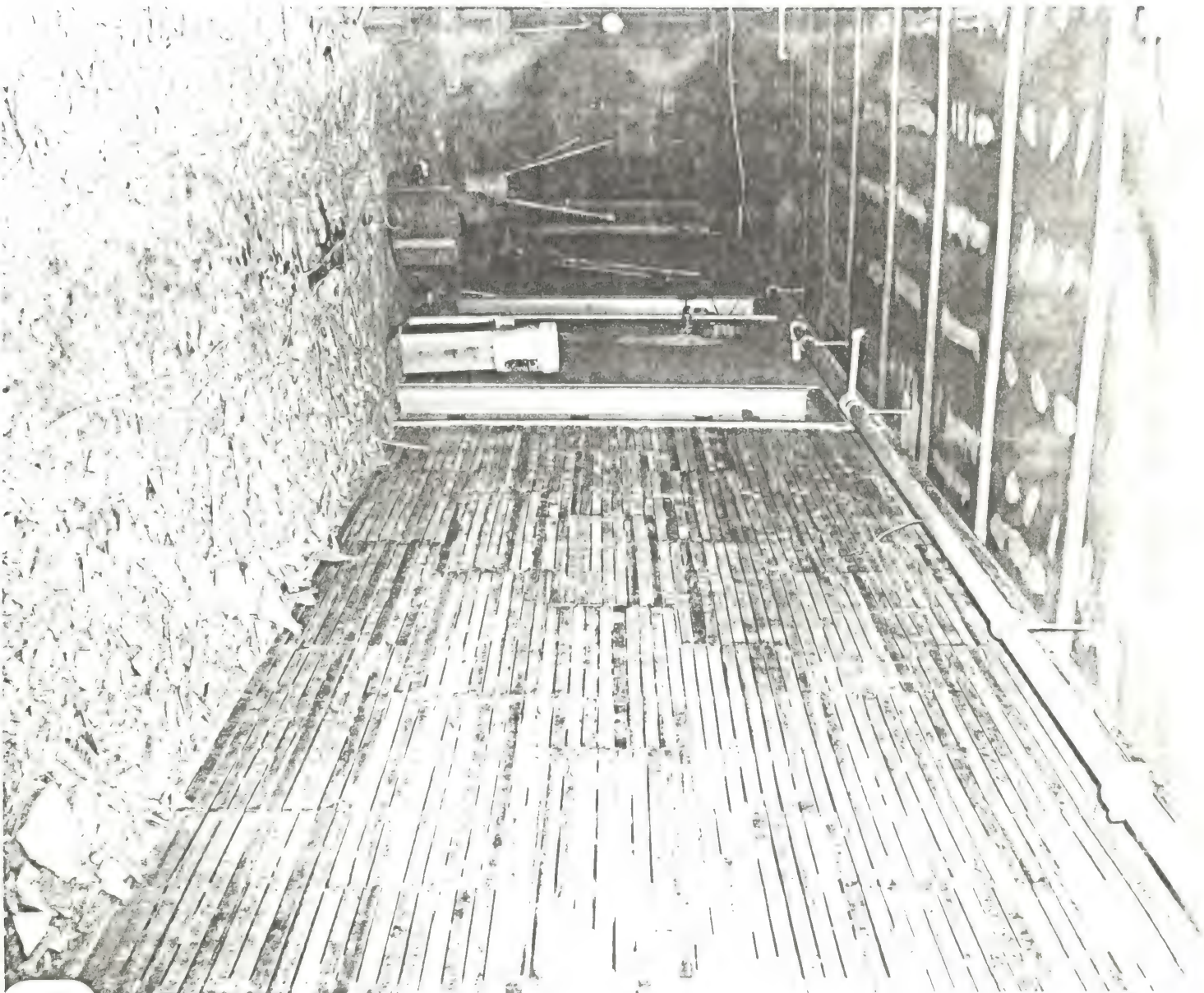




LAKE HOTEL GIRL' DORM FIRE ESCAPE





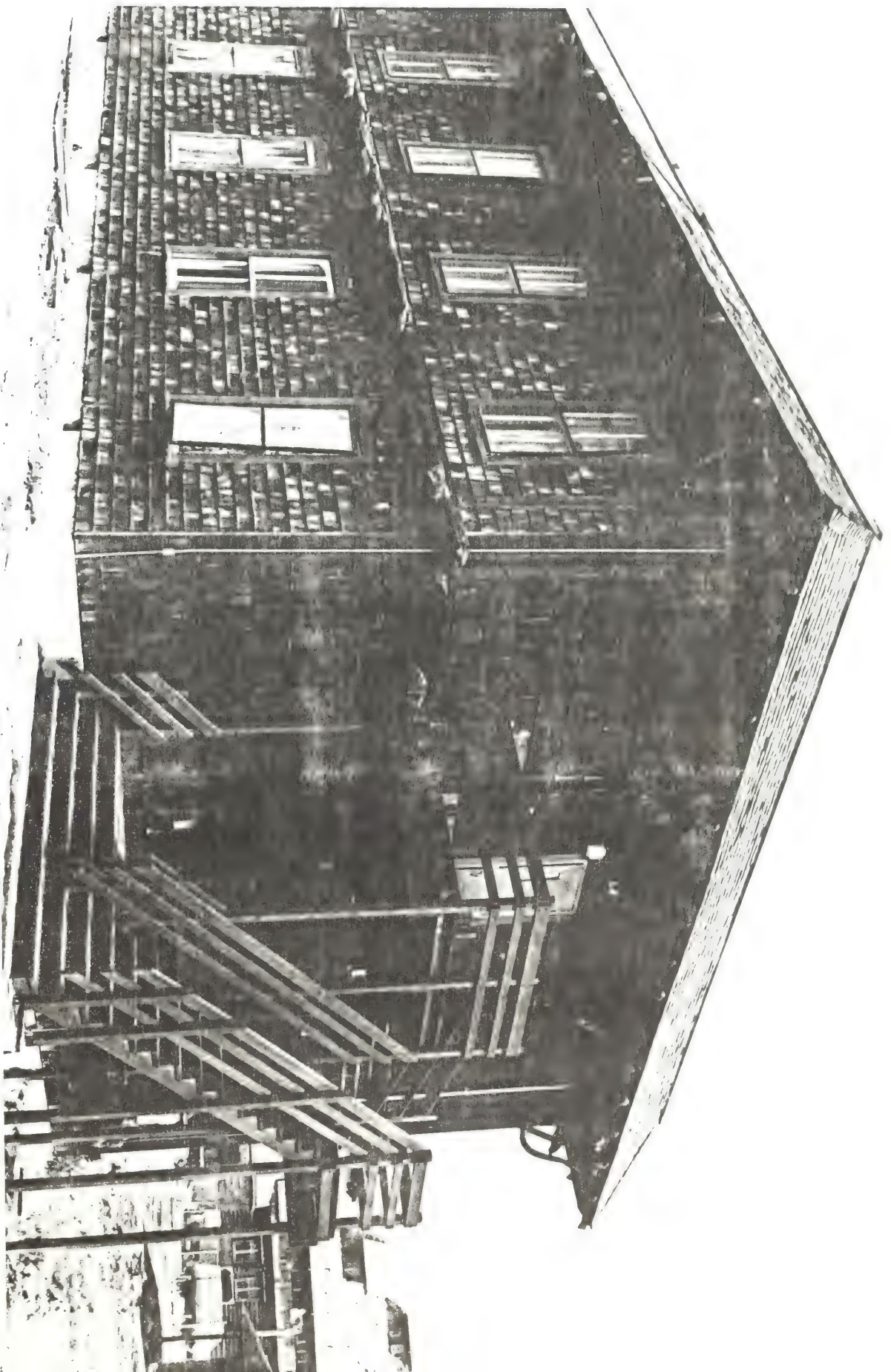


LAKE HOTEL - HALL STRIPPED





OLD FAITHFUL INN GIRL'S DORM  
FIRE ESCAPE





## VII. SUPERINTENDENT/PUBLIC INFORMATION OFFICE

### A. Personnel Actions:

Employees (other than division chiefs), directly associated with the Superintendent/Public Information Office, included:

John Townsley, Superintendent  
Benton Clary, Assistant Superintendent  
Linda Miller, Secretary-Steno  
Dan Wenk, Landscape Architect

Joan Anzelmo, Management Assistant  
Marian Hubler, Public Information Clerk  
Mary Delle Gunn, YACC  
Bill Keller, Photographer

Paul Ellis, Assistant Regional Safety Manager

Early in the year, Assistant Superintendent Ron Wrye received a promotion and transferred to Maine as Superintendent of Acadia National Park.

Beginning in June, Mac Berg of the Rio Grand Wild & Scenic River Project, transferred on a temporary detail to serve as Assistant Superintendent until a new person was selected for that position. In November, Mr. Berg was named Superintendent of Herbert Hoover National Historic Site and left Yellowstone.

Ben Clary, Chief of Maintenance, was reassigned to the Assistant Superintendent position effective November 15.

During the year, Superintendent Townsley was awarded the International Snowmobile Industry Association's International Award of Merit for 1981. The award, given in recognition of Mr. Townsley's exceptional contributions to the sport of snowmobiling, was presented on May 3 at the International Snowmobile Congress in Winnipeg, Manitoba. The award was presented by M. B. Doyle, Chairman and Chief Executive Officer of ISIA, who noted in part, "Mr. Townsley was recommended for this award by snowmobilers, local tourism industry leaders and other governmental officials. They recognize his personal commitment to bringing persons enjoying a variety of outdoor winter activities into harmony with each other and the park resource they are experiencing."

In August, Joan Anzelmo was promoted from GS-9 to GS-11. In September, the temporary Public Information Clerk position, GS-4, was converted to a career/subject-to-furlough position, providing the office with essential clerical continuity.





During the year, four Young Adult Conservation Corps enrollees worked at different times for the Superintendent and Public Information Office. In July, a seasonal Park Aid, GS-3, was hired for 3½ months to assist with a wide variety of duties during the busy summer season at a time when no YACC enrollees were available.

From July through Labor Day, a Japanese student from Montana State University in Bozeman, participated in a joint internship with the National Park Service and TWA Services, Inc. Ms. Murakushi worked on special assignments for the Public Information Office as an escort for official Japanese visitors. During the remainder of her internship, she worked for TWA as a Travel and Information Agent at information desks at Mammoth, Canyon and Old Faithful. She also accompanied several TWA-sponsored Japanese group tours, to aid the bus driver/tour guide in interpreting the sights of Yellowstone in Japanese. She received no pay, but was provided with meals and housing by TWA.

During the month of December, Mark Wilson, a Volunteer-In-Parks, worked in the Photography Shop to have an opportunity to practice and develop photo/lab skills. As a volunteer, he also worked on organizing the park's extensive historic photo negative files.

#### B. General Information Services:

The Public Information Office served as a kind of clearing house of information for the park and local communities, and responded daily to written, telephone and personal requests for assistance and information.

Often requiring detailed answers, a wide range of correspondence, numbering more than 350 pieces, was handled. More than 25% of this correspondence was from foreign countries interested in U.S. national parks and/or Yellowstone. Often the Public Information Office assisted other divisions in responding to issues of a complicated, controversial or sensitive nature.

The Public Information Office worked closely and consistently with the Regional and Washington Public Affairs Offices, keeping them informed on a variety of matters and seeking advice on sensitive issues. Issues facing Yellowstone in the year were diverse and complex, and included Grant Village, the Old Faithful Development Concept Plan, grizzly bear management, geothermal energy, Washakie Wilderness, the northern Yellowstone elk herd, potential winter closure, the role of the modern park ranger, late spring opening, budget, overcrowding, bison brucellosis and the Greater Yellowstone Ecosystem.



The Public Information Office researched and prepared a wide range of briefing papers and fact sheets for the Regional and Washington offices and the park in general. They also worked with the Director's Special Assistant for Tourism, Priscilla Baker, supplying a variety of information when requested.

Frequent assistance was provided to the International Park Affairs Office in Washington, with foreign language requests for national park information. Sometimes the assistance was in the form of translating letters.

Walk-in visitors were assisted with various kinds of help, including information on employment with the National Park Service, resolution or at least "airing" of complaints and compliments, etc. Various kinds of traveler aid was given to foreign visitors, including assistance with translation and travel arrangements.

Both offices assisted with responses to a wide variety of Congressional requests and correspondence, as well as Freedom of Information requests.

- C. Press Releases: There were 59 press releases issued in 1981 on a wide variety of topics. Approximately 15 were issued concerning road and weather conditions; 7 concerning road openings; 5 regarding bear activities and injuries to humans; several regarding accidents, including four fatal auto accidents, a fatal burning in a thermal pool, a drowning; and other non-fatal accidents which included a thermal burn, an overturned bus, a helicopter crash just outside the park, and an injury resulting from illegal kayaking on the Yellowstone River.

Other events of newsworthy note included indictments for several groups of poachers, and the arrest of three men involved in auto thefts. Parkwide activities of interest to the media included the winter camera safaris, a campground fee increase, public meetings on the future of the developed site at Old Faithful, the bidding process and announcement of a new concessioner, our Youth Conservation Program, the unusually active fire season this year, and Secretary Watt's September visit to the park. Five releases focused on National Park Service employees who transferred to or left Yellowstone for another park area.

- D. Media Relations: 1981 was an extremely busy year in Yellowstone with relation to the media. In addition to regular contacts through press releases and by telephone, major television networks, radio stations and newspapers all focused on Yellowstone for different stories.



News teams from most major television networks in the United States and from different parts of the world came to Yellowstone in the summer. Sixty Minutes, NBC, ABC, CBS, and a crew from German Television were among the 100+ media who came to Old Faithful on Saturday, September 12, to cover Secretary Watt's visit to the park. During the month of June, news teams from the "Today Show" came to Yellowstone to film segments for several newscasts concerning the park. Earlier in the month, NBC's "Magazine" visited Yellowstone to do a story on the American bison in its natural environment. Later in the summer, a Japanese company, Iwanami Productions, came to film a variety of Yellowstone wildlife for their TV program "Viva Animals". In July, Denver Public Television visited Yellowstone Park where they filmed several segments of an educational series entitled "Our National Parks". MTN News, Butte, Montana, and KSL-TV and KUTV, Salt Lake City, also did specials on park issues related to Yellowstone. KID Television from Idaho Falls attended the Flagg Ranch press conference to cover Secretary Watt's winter trip to Yellowstone.

Several radio stations did specials on Yellowstone, including National Public Radio of Washington, D.C., which did a segment on current national park issues for their program entitled "All Things Considered". KUWR Radio of Laramie, Wyoming, also did a series of programs on a variety of topics concerning the park, as did ABC, New York, CBS, New York, WCCO, Twin Cities, Minnesota, and KTWO, Casper, Wyoming.

Many journalists from different publications visited Yellowstone this year to do special stories. The Wall Street Journal sent a correspondent to do a story on Yellowstone's budget. He later returned for another look at Yellowstone in the fall season. The New York Times published several articles on the park, one which focused on the role of the park ranger. The Washington Post and the Christian Science Monitor both sent reporters to do stories on current issues facing Yellowstone. The Rocky Mountain News and U.S. News and World Report also did comprehensive pieces on the park. Other publications doing articles related to Yellowstone this year included Self Magazine, Audubon Magazine, National Parks Magazine, and Rocky Mountain Magazine.

During the 1981 summer season, Yellowstone, at the invitation of Grand Teton National Park and the Bridger-Teton National Forest, participated in a weekly public service broadcast on the greater Yellowstone area, which provided visitors enroute to the area with helpful information. This weekly information report was broadcast to more than 120 stations in the Rocky Mountain region on the weekend.



As a public service, the Public Information Office also provided daily visitor information to KPRK Radio in Livingston, Montana, and weekly reports to KPOW Radio in Powell, Wyoming, and KTW0 Radio in Casper.

The length and breadth of national media interest in Yellowstone, and national parks in general, was great in 1981. Local media interest was also intense, with much time devoted to continuous updates for local radio stations, the wire services, local newspapers and television stations. The focus on Yellowstone by all segments of the media reached an unprecedented height during the summer of 1981. This focus has resulted in a continuing high level of interest by the national media in Yellowstone.

- E. Official Visitors: Throughout the year, the Public Information Office assisted with programs and arrangements for United States and foreign government dignitaries, park officials and other special guests.

In addition to Secretary Watt's two trips to the park, Yellowstone hosted various official American guests. Former President Carter, while in the area to attend the August Federation of Fly Fishermen in West Yellowstone, Montana, spent a day at Yellowstone's Grebe Lake fishing for arctic grayling. Congressional representatives included Congressman Bereuter (Nebraska), Congressman McDade (Pennsylvania), and Congressman Jerry Patterson (California). Several National Park Service employees from other areas were also officially welcomed to Yellowstone.

Students from Ball State University were among the larger groups, along with a party of 30 from the Soil Conservation Service who were given a one day tour of Yellowstone and resource management problems. Other official visitors included the Director of Pennsylvania State Parks and a group of wildlife artists sponsored by the American Masters Foundation of Houston, Texas.

The Public Information Office also coordinated arrangements for many official foreign visitors to Yellowstone, many of whom were guests of the United States Government. The programs of official foreign visitors were coordinated in cooperation with many other offices and agencies, including the National Park Service, the Department of the Interior, the Visitor Program Service of Meridian House International, as well as many other international foundations.

Our official visitors in 1981 encompassed many countries and concerns, from heads of a private park in Mexico, to an official of the Environmental Agency in Japan. Other special foreign visitors came from as far away as South Africa's KwaZulu Public Service Commission, Zaire's Ministry of State for Environment, Hungary's Ministry of Industry, Spain's ruling party, Taiwan's





County Council, the Japanese Embassy, Scotland's National Historic Trust, France's National Parc Des Pyrenees Occidentales, Australia's National Park Service, and Iceland's Nature Conservancy. Yellowstone hosted both Winston Churchill Trust Fellows and Eisenhower Exchange Fellows this summer.

Two large groups of foreign visitors were officially welcomed, one of tour operators from the United Kingdom, and the other, of travel writers and photographers from Japan.

The majority of all official visitors came to Yellowstone during the months of June through September.

#### OFFICIAL FOREIGN VISITORS

<u>Country</u>	<u>Visitors</u>	<u>Country</u>	<u>Visitors</u>
Africa	2	Hungary	1
Australia	4	Iceland	2
Belgium	1	India	6
Canada	2	Israel	4
China	2	Japan	35
Denmark	1	Mexico	2
England	32	Poland	3
France	5	Scotland	1
Germany	2	South Africa	1
		Zaire	<u>1</u>
			107

- F. Filming Permits: In 1981, 47 commercial film permits were issued to both individuals and film companies. Of these, 25 permits were issued to individuals for commercial still photography and the remainder were for a variety of film productions.

Several major film companies came to the park to produce segments for different films on energy. Walt Disney Productions, California, came at the beginning of June to film the geysers in Yellowstone for a production to be featured at the Energy Pavillion at Walt Disney World in Orlando, Florida. Sponsored by the United States Department of Commerce, Francis Thompson, Inc., from New York, came during the middle of July to film "energy as it exists in nature" for a segment in a film that will be the main attraction at the U.S. Pavilion at the International Energy Exposition '82 in Knoxville, Tennessee. Other companies concentrated on geothermal



energy for commercial films including the Alabama and Utah Power Companies, as well as Italian National Television which also filmed thermal features in the park. Most of the remaining filmmakers concentrated on wildlife. Two wildlife filmmakers did work for English firms, with Wolfgang Bayer Productions, Inc., filming for the BBC a half-hour television special on winter in Yellowstone, entitled "The Silent World of Yellowstone", and another filmmaker doing a series of wildlife films for Survival Anglia, Ltd., London. Several other international wildlife filmmakers worked in Yellowstone, including one from Belgium and two from Japan. Of the educational films shot in the park this year, Dick Young Productions from New York, shot several scenes in the park for a film on the life of Buffalo Bill for the Cody Museum.

- G. Meetings and Conferences: For two weeks in January, Joan Anzelmo served on a small task force in Washington, D.C., developing recommendations for the Director on how the Service should deal with the increased numbers of foreign visitors coming to the national parks. Basic recommendations are being acted upon by the National Park Service with the coordination being handled by Roy Graybill, Chief of Visitor Services, WASO.

In March, Joan attended the annual Montana State tourism meeting in Helena, Montana, providing information to the attendees on Yellowstone National Park and responding to their questions and concerns, and in May attended the Wyoming State tourism meeting in Riverton, Wyoming. Throughout the year, Joan worked closely with the tourism industry, meeting various groups of United States and foreign tour operators and travel writers as they visited the Yellowstone Region.

During the months of February through May, Joan attended a variety of Chamber of Commerce meetings, town meetings and special functions in the gateway communities. It was an ongoing effort throughout the year to enhance communications and foster good working relationships with the adjacent communities.

During the month of August, public meetings were held on the future of the developed area at Old Faithful. These meetings were coordinated by National Park Service representatives from Denver in addition to Yellowstone representatives Superintendent Townsley, Landscape Architect, Dan Wenk, and Joan Anzelmo. The meetings ran August 4 through August 17.

Superintendent Townsley and Joan attended the Conclave of the Federation of Fly Fishers in West Yellowstone, Montana, on August 19. They attended a dinner followed by a groundbreaking ceremony for the new Flyfishing Museum. Former President Carter was the keynote speaker. Superintendent Townsley also spoke. During the groundbreaking, Jimmy Carter and John Townsley shared the honors.



On September 19, Superintendent Townsley and Joan attended the annual Red Lodge Chamber of Commerce dinner in Red Lodge, Montana. The keynote speaker was Ralph McMullen, Director of the Jackson Hole Chamber of Commerce. Ralph promoted the idea of a Greater Yellowstone Chamber of Commerce for all gateway communities.

On September 25, Joan attended the Montana Travel Fair in Billings, Montana, at the request of the State and provided information to the foreign tour operators who were visiting Yellowstone as part of a trip to Montana and Wyoming.

On September 26, Superintendent Townsley and Joan attended the annual Chamber of Commerce meeting in Dubois, Wyoming. Superintendent Townsley was the keynote speaker, discussing various Yellowstone issues.

On September 29, Joan met with the National Press Women's Association and spoke to them at a luncheon at Old Faithful hosted by TWA Services, Inc.

Joan taught a course in Public Information and Media Relations for an "Orientation to the National Park Service" course at the Albright Training Center, which was held from September 20-25.

During the month of October, Joan was assigned to the National Park Service Special Event Team in Yorktown for the United States and French bicentennial celebration of the Battle of Yorktown, where American and French forces defeated the British 200 years ago to end the Revolutionary War. Yorktown Assistant Superintendent, John Abbett, assigned Joan to serve as the NPS Press Officer to 900 credentialed United States and foreign press attending the four days of events. Joan worked with the Virginia State officials, the Foreign Press Center, the White House press staff and other NPS employees to meet the complex needs of the media engaged in worldwide coverage of this event. These needs had to be met without compromising the park's fragile historic features and terrain, or endangering people, or interfering with security requirements for the President's visit. Additionally, Joan assisted the White and State Department with official French visitors, including members of President Mitterand's party. An estimated 250,000 people attended the four days of events from across the country, Canada and Europe. Several hundred million enjoyed the events via television, radio and newspapers.

H. Special Events: The Public Information Office made arrangements for and assisted during the following special events:

On February 9-10, board members of the National Park Foundation from all over the country came to Yellowstone on a working visit. They travelled with Superintendent Townsley by snowmobile to Lake and Old Faithful to gain knowledge of current concerns and issues facing Yellowstone.



Secretary Watt's September visit to Yellowstone: On Saturday, September 12, Interior Secretary Watt paid a visit to Yellowstone. He arrived by helicopter in time for a walking tour of Old Faithful. He was accompanied by 100+ media representatives, including every major American television network. The National Park Service hosted the media to a continental breakfast and a bus tour of facilities at Old Faithful before the Secretary's arrival. After the walking tour, a private luncheon was held for the Secretary and his party by Yellowstone Park staff. Management staff of the various concessionaires in Yellowstone were also invited to the luncheon.

Secretary Watt and party's winter visit to Yellowstone: From December 19-21, Secretary Watt, along with officials from Idaho, Montana and Wyoming, toured Yellowstone by snowmobile. Accompanying Secretary Watt were his wife, Leilani and son Eric; Under Secretary Hodel, Mrs. Hodel and son David; Steve Shipley, Special Assistant to the Secretary; Senator Wallop and son Paul; Norb Bonjo, Security for the Secretary; Congressman Cheney and wife Lynn; Congressman Larry Craig; Senator Steve Symms and wife Fran; Governor Ed Herschler; Governor Schwinden and wife Jean. The group assembled in Mammoth on Saturday, December 19, with dinner at Superintendent Townsley's home. Escorted by various staff members, the group proceeded by snowmobile on Sunday from Tower Junction to Dunraven Pass, Canyon, Lake Yellowstone, West Thumb and Old Faithful. At Old Faithful, an informal reception and dinner was held at the Snowlodge. Monday morning, after a brief tour of Old Faithful, the group snowmobiled to Grant Village and South Entrance, and a press availability was held at 1 p.m. at Flagg Ranch. From there, the party continued their trip to Jackson.

- I. Photo/Slide Requests: The Public Information Office answered over 200 requests for loans for a variety of slides and photographs on Yellowstone subjects. Film and publishing companies, advertising agencies, commercial enterprises, newspapers, magazines, schools, travel organizations, as well as private individuals submitted the majority of requests.

The Photography Shop, attached to the Public Information Office, handled a great deal of specialized photographic work for different divisions. Special projects included field trips to photograph winter road conditions, survey the Yellowstone River, cover Secretary Watt's visits, recording the drying up of Minerva Terrace, documenting improvements on various facilities relating to health/life safety issues, and rock blasting at the Golden Gate. In total, 1,600 prints, 3,073 slides and 62 metal photos were produced. Other work included the printing of approximately 1,400 historic glass plates, which were then copied onto 4x5 film and filed in the native file with subject index cards. Eight rolls of film were also developed for Fish and Wildlife, along with 102 printed photographs and 83 duplications of slides.





# SEPARATION SHEET

Yellowstone NP

Archives

Type and Number of Item(s) (map, newspaper, clipping, photograph, etc.)

13 Black + White Photographs

Description of Item(s) (include dates, names, topics, etc.)

Park Staff  
James Watt  
Grizzly Bear Reclamation  
Forest Fire  
Maintenance projects  
snowmobiles  
see photocopies

Condition of Item(s)

fair

Item(s) Originally Filed (specific location: room #, unit #, shelf #, collection name, box #, folder #, etc.)

1981 Superintendents Annual Report

Item(s) Now Filed (specific location: room #, unit #, shelf #, collection name, box #, folder #, etc.)

photo Archives.

Separated by (name, title, and office)

14. Cherry

Separation Date:

7-30-03





Yellowstone National Park 9-12-61  
Walking Tour with the Media at  
Old Faithful  
Secretary James Watt and  
Superintendent John Townsley







Yellowstone National Park 12-20-  
Winter Snowmobile Trip  
Secretary James Watt and Party



- J. Publication Editing Requests: The Public Information Office responded to more than 34 requests for editing publications concerning Yellowstone, and numerous other phone requests for the same. Of these requests, approximately 16 were travel guides, 5 were related to news publications, 7 to magazines, and 4 to books. These requests were often complex, requiring extensive research on the part of the staff to supply accurate information.
- K. Special Projects: The Public Information Office prepared an extensive reference volume on the Greater Yellowstone Area. This book was made available at various locations throughout the park to enable employees to assist visitors with questions regarding Yellowstone Park, the surrounding forests and gateway communities.

Staff of the Public Information Office assisted the Ranger Division during the fall months at the North Entrance to provide coverage there.

Joan served on the park's uniform committee developing the park's uniform standards and working as a liaison with Region and WASO regarding problems in obtaining uniform items.





## VIII. OTHER

### A. Auxiliary Programs:

1. Young Adult Conservation Corps (YACC): The Yellowstone Young Adult Conservation Corps went through many changes in 1981, the fourth year of the program in Yellowstone. In January, the center's budget was over \$1.6 million; by December this figure was down over 78%.

In March, the new Administration decided to eliminate the YACC program. This was followed by an April 1 freeze on corps-member hiring and the hurried departure of Camp Director Jack Angus and Administrative Officer Joan Young. Jeffrey Tiberi, who was in charge of work projects, was temporarily promoted to Program Manager to direct the phasedown.

In spite of the phasedown turmoil, approximately 100,000 hours of labor were performed in the park by corpsmembers during 1981.

Although the National Park Service recommended operating the Yellowstone Center as a residential unit in FY 82, the Department decided to operate only non-residential centers during the phasedown in FY 82. In August, plans were developed to operate a non-residential center in the park, using gateway community and seasonal housing units to facilitate the operation. On September 11, our proposal to run a 45-person non-residential camp was accepted by the Office of Youth Programs. Existing plans call for this operation to run through June 30, 1982, or until money runs out, whichever occurs first.

Major work projects in 1981 were the insulation of 30 Government buildings, construction of two portable dorms and a two stall garage, completion of the telephone line removal project, and various landscaping projects. As in the past, 60-70% of the workforce was assigned to NPS personnel. This not only increases their productivity, but also develops supervisory skills and interactive skills in the workforce.

Corpsmembers have been stationed at Mammoth, Tower, Northeast Entrance, Beartooth Road Camp, Canyon, Fishing Bridge, Lake, West Thumb, Grant, South Entrance, Old Faithful, Madison, West Yellowstone and Norris. We continued our assistance to Grand Teton National Park and Wind Cave National Park by providing five and two positions respectively in these areas. Both of these areas lost their positions after September, due to the new limits on personnel.



2. Youth Conservation Corps (YCC): One 7-day residential, co-educational camp was operated in the summer of 1981. The camp was based in the ATCO trailer facility located at Grant Village, with a 10-person satellite camp operating out of Colter Bay in Grand Teton National Park.

The seven week program was contracted to EDGE, Inc. (Environmental Development and Group Encounter) of Pueblo, Colorado. EDGE provided 12 staff for 46 enrollees (maximum). The Teton satellite camp consisted of 8 enrollees and 2 staff who lived in tent cabins with meals provided by the park concessionaire.

Work projects out of the Grant Village camp consisted of tree transplanting, vista clearing, camp maintenance and painting projects, fisheries habitat improvement, trail construction, maintenance and clearing, trail bridge construction and remodeling. The Teton work projects consisted of buck and rail fence construction, trail maintenance, and habitat improvement.

Enrollees received basic first aid training and the staff attended a Defensive Driving course. Enrollees participated in environmental awareness sessions and a variety of recreational activities (including guest speakers, naturalist hikes, survival skills, group dynamics, and backpacking adventures).

Appraised value of all projects was \$87,423, with enrollees expending 17,801 environmental/learning hours. Direct Bureau (NPS) costs for technical supervision and materials and supplies was \$3,643.

3. Volunteers-In-Parks Program (VIP): The VIP Program continues to be an effective and necessary tool to provide assistance of various kinds to districts and supervisors. Large numbers of VIP applications are received by the VIP Coordinator from highly qualified individuals throughout the country who are eager to donate their time and talents. Many of these individuals have been utilized in various degrees with productive, appreciated, and worthwhile end results. Participation increased again in 1981, and involved 189 volunteers donating 17,048 hours.

4. A Christian Ministry in Yellowstone National Park/The Gardiner-Mammoth Winter Ministry: These yoked interdenominational ministries are related nationally to "A Christian Ministry in the National Parks". The program is self-supporting, with funding received primarily from the offerings received at the services of worship sponsored by the Ministry. No Government funding is provided nor sought for support.



The Mammoth Chapel was used for 11 weddings and 42 religious services during 1981. The Chapel was out of service from November 1 to May 1, to conserve fuel. Religious services were held in the Mammoth School during this time. Repair work on the Chapel windows is nearing completion. The committee recommended that plexiglass be placed over the windows to protect them from future damage and serve as storm windows to reduce fuel costs.

The schedule of services was developed, printed and distributed. The schedule consisted of 440 individual services, which were attended by over 13,000 visitors.

The Chapel user fee remained the same in 1981 as 1980; \$6.00 for scheduled religious services and \$25.00 for special uses such as weddings, funerals, etc. The Church Committee's financial status improved slightly in 1981, so the user fees will remain the same for 1982.

#### B. Status of Planning:

1. Core Mission: Yellowstone was one of six parks to develop prototype Core Mission projects to identify the minimal acceptable level of operation for the park. The park worked closely with the Regional Office in defining the parameters of the project and the format for presentation and use. The project began in mid-May and culminated with a presentation to the review team on August 13 and 14.

The process developed in Yellowstone served as a basis for the basic operation request for all parks. Staff time on the project was approximately 4,000 hours during the peak visitor season.

2. Old Faithful Development Concept Plan: Public meetings were conducted in Yellowstone and the three states surrounding the park in August. Eleven meetings were held in Helena, Bozeman, Billings, Gardiner and West Yellowstone, Montana; Jackson, Cheyenne, and Old Faithful, Wyoming; and Boise, Idaho.

Five alternatives were presented to the public for their input and comment. The meetings were attended by 361 individuals. A total of 1,000 public response forms were distributed and 145 returned with written comments.

The written and public comments were reviewed, and alternatives were revised on the basis of comments and input by park, Region and Denver Service Center staff. A decision-making meeting was held November 18 with the Regional Director. The draft environmental assessment is being prepared and will be issued in late spring of 1982 by the Denver Service Center.



3. Grant Village Development Concept Plan: The Grant Village DCP/Preferred Alternative was available for public review for 30 days during July. Written comments were received from 23 individuals. In October, the park recommended that the preferred alternative be updated to reflect decisions made by the Secretary of Interior regarding the expenditure of appropriated money to construct additional units, and the commitment of TWA Services to construct additional facilities in FY 83. The park further recommended that a Finding of No Significant Impact be prepared for Grant Village. Notice in the Federal Register is expected in early 1982.

While planning for completion of Grant Village continued, construction of Phase I was ongoing. The following is a brief summary of construction activity:

--March	Kober Construction began construction on modular units
--April 7	Construction halted by orders of Department of Interior, for review
--April 14	Construction resumed
--September	Units placed on foundation
--October	Contract awarded for utility connections and site work

Units are scheduled for completion and occupancy in July 1982.

Designs were begun on the restaurant by Spencer Associates, and the site improvements by the Denver Service Center.

4. Fishing Bridge Cabins/Lamar Ranger Station: An Environmental Assessment and Finding of No Significant Impact was signed for the relocation of Fishing Bridge cabins to the Lamar Ranger Station for use by the Yellowstone Institute. This action allows the expansion of the Yellowstone curriculum and lodging at the Lamar Ranger Station site.

5. PRIP PROGRAM: Environmental Assessments were initiated on three projects in the 1982 PRIP Program: 1) Construct four garbage containers and truck cleaning stations; 2) Replace comfort stations and utilities, Norris; 3) Increase overflow storage at 11 lift stations. Documents will be completed prior to construction in the spring of 1982.





6. Telephone Communications System: During 1981, Mountain Bell Telephone Company completed the installation of the micro-wave system in Yellowstone. Problems and deficiencies within the system were identified and Mountain Bell initiated steps to correct the problem and provide reliable efficient phone service for the operation of the park and for the use of visitors.

Approximately 115 charge-a-call and coin phones were installed in developed areas by Mountain Bell. This installation was based on both anticipated and existing needs of the public. Documentation of performance and use of the phone system is to be provided by Mountain Bell in order to enable the park to make determinations as to the appropriate location and numbers of phones to be provided to the public throughout the park.

#### C. Safety Program:

The Safety Program in Yellowstone National Park continues to receive high priority. The Assistant Regional Safety Manager remained in residence and from this location works in Yellowstone, Grand Teton, Grant-Kohrs Ranch National Historic Site and Big Hole National Battlefield. Most of his time is spent in the field in Yellowstone. Preopening and followup inspections are accomplished at all concession facilities.

A parkwide Safety Committee was appointed and meetings were held monthly. During June through September, these meetings were held at various locations in the park. The Safety Committee consisted of representatives from all divisions, a housewife, YACC, and representatives of the concessioners operating in the park. Workcrew "tailgate" safety meetings were held on a regular basis. The Safety Manager was able to participate in many of these.

Prior to the start of the snowmobile season, training sessions on the safety and maintenance of the machines were conducted. These training sessions were held at the Vehicle Repair Shop and conducted by trained shop personnel. It is mandatory for any employee who operated a snowmachine to attend these classes. Each division chief is responsible for on-the-machine training of the oversnow operation of the machine.

Defensive Driving classes were conducted during the year with 188 National Park Service and YACC employees receiving certificates. All employees must have a course in defensive driving within 30 days after obtaining their operator's permit. All employees are required to attend a Defensive Driving course at least once each three years. All employees must pass a driver's road test before an SF-46 is issued to operate a Government vehicle.



Numerous first aid and CPR courses were held during the year, with National Park Service and YACC employees in attendance.

Blasting schools were conducted in five parks by the Maintenance Supervisor. Each class consisted of 25 participants.

A comparison of accidents for the past three years is as follows:

	<u>1979</u>	<u>1980</u>	<u>1981</u>
Fatalities	3	5	7
Employee Accidents	66	30	28
Employee Vehicle Accidents	22	16	17

After each employee motor vehicle accident, a review team chaired by the division chief, met to discuss the accident, determine whether or not the accident could have been prevented, and decide upon the appropriate disciplinary action to be taken when warranted. Each fatality is reviewed by a team appointed by the Superintendent.

Fatalities included a 24-year-old concession employee who was killed in a one-vehicle accident on the Grand Loop Road, 11 miles north of Old Faithful. The vehicle left the road, travelled approximately 480 feet and struck a large tree. The driver survived, but the passenger was killed.

A 12-year-old Idaho Falls girl riding in the back of a pickup was killed when the truck overturned near Cub Creek. Three other passengers and the driver survived.

A 69-year-old fisherman drowned after he slipped or lost his balance and fell into the Yellowstone River near Tower. His body was located 3½ miles downstream over a month after the accident.

A 24-year-old male visitor fell or jumped into Celestine Pool to retrieve a friend's dog. He died the next day at the Salt Lake Burn Center from the extensive thermal burns he suffered.

A 12-year-old boy from Cody was critically injured when the vehicle his father was driving went off the road near Pumice Point and struck a tree. The boy died four days later at St. Vincent's Hospital in Billings as a result of his injuries.

An elderly Florida couple was killed when their automobile slid on ice between Mammoth and Tower, went off the road and rolled down a hillside. Both were thrown from the vehicle.

During 1981, 13 visitor thermal burn accidents were reported. They included:

Three male visitors in separate incidents, who received from first to third degree burns while attempting to retrieve dogs from



thermal pools. One of the men died from his injuries. There were no cases of this type reported in 1980.

Eight visitors received first and second degree burns in separate incidents when they left the boardwalks or established trails and broke through the crust or slipped into thermal pools or features. Comparatively, in 1980 there were three similar reported accidents.

A male visitor received second degree burns while assisting his friend (the man who later died), from the thermal pool. Another visitors received first and second degree burns while attempting, with his foot, to retrieve his hat from a thermal pool.

In 1980, a visitor, while being photographed, stepped back into a hot pool and received second degree burns on her ankle. Another visitor, while fishing, stepped into hot water and suffered second degree burns on the ankle. A concession employee received first and second degree burns to his feet when he attempted to look into the cone of Old Faithful



The number of visitors during the period between the establishment of the park (1872), and the beginning of this compilation (1895), was estimated to be not less than 1,000 nor more than 5,000 each year.

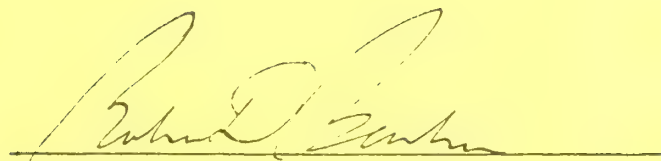
<u>YEAR</u>	<u>VISITORS</u>	<u>YEAR</u>	<u>VISITORS</u>	<u>YEAR</u>	<u>VISITORS</u>
1895	5,438	1930	227,901	1960	1,443,288
96	4,650	31	221,248	61	1,524,088
97	10,680	32	157,624	62	1,925,227
98	6,534	33	161,938	63	1,872,417
99	9,579	34	260,775	64	1,929,316
		35	317,998	65	2,062,475
1900	8,928	36	432,570	66	2,130,313
01	10,769	37	499,242	67	2,210,023
02	13,433	38	466,185	68	2,229,657
03	13,165	39	488,936	69	2,193,894
04	13,727				
05	26,188	1940	526,437	1970	2,297,290
06	17,182	41	581,761	71	2,120,487
07	16,414	42	191,830	72	2,246,827
08	18,748	43	64,144	73	2,061,537
09	35,545	44	85,347	74	1,937,768
		45	178,296	75	2,246,132
1910	19,575	46	814,907	76	2,525,174
11	23,054	47	932,503	77	2,487,084
12	22,970	48	1,013,531	78	2,623,141
13	24,929	49	1,133,516	79	1,895,169
14	20,250				
15	51,895	50	1,109,926	80	2,018,852
16	35,849	51	1,166,346	81	2,549,307
17	35,400	52	1,350,295*		
18	21,275	53	1,326,858		
19	62,261	54	1,328,893		
		55	1,368,515		
1920	79,777	56	1,457,782		
21	81,651	57	1,595,875		
22	98,225	58	1,442,428		
23	138,352	59	1,408,667		
24	144,158				
25	154,282				
26	187,807				
27	200,825				
28	230,984				
29	260,697				

\*Beginning in 1952, the figures represent travel during the calendar year instead of the period October 1 to September 30 as previously used.





1982  
ANNUAL REPORT  
OF THE  
SUPERINTENDENT  
YELLOWSTONE NATIONAL PARK

  
Robert D. Barbee  
Superintendent

Date: 3/4/83



### DEDICATION

This report is dedicated to the memory of Superintendent John A. Townsley, who died of cancer on September 19, 1982.

The following tribute was prepared by Horace Albright to be read in his absence at the memorial service on September 23.

"John Townsley's death is as great a tragedy as the National Park Service has ever suffered. What a pity that he has left us when he still had so much to give in conscientious public service, in devotion to his family, and in kindly, gentle friendship to all who were fortunate enough to know him. John was one of nature's noble men. Great in physical stature, with spotless character and versatility and ability in professional achievements, he richly deserved the promotions and honors he received. I knew John from his infancy in Yosemite National Park. I have been proud of him from his boyhood days. My family and I are deeply saddened and extend heartfelt sympathy to his family, his associates and his friends everywhere. May his spirit remain forever in our beloved Yellowstone."

Horace M. Albright



# TABLE OF CONTENTS

	<u>Page</u>
<u>I. ADMINISTRATION</u>	
A. Budget and Finance.....	1
B. Personnel.....	2-4
1. Staffing.....	2
2. Classification.....	2
3. Employee Development.....	2-3
4. Worker's Compensation.....	3
5. Equal Employment Opportunity.....	3-4
C. Procurement.....	4
D. Offices Services.....	4
E. Supply.....	4
F. Property.....	4-5
<u>II. CONCESSIONS MANAGEMENT</u>	
A. Personnel.....	6
B. Concessions Contracts.....	6
C. Concessioners.....	6-8
<u>III. INTERPRETATION AND VISITOR SERVICES</u>	
Introduction.....	9-11
A. General Interpretation.....	11-13
B. District Interpretive Activities.....	13-25
1. South District.....	13-17
2. West District.....	17-20
3. North District.....	20-25
C. Historian and Yellowstone Park Archives.....	25-26
D. Library.....	26-27
E. Curator.....	27-28
F. Yellowstone Library and Museum Association.....	29
G. Bighole National Battlefield.....	30
<u>IV. RESOURCE MANAGEMENT AND VISITOR PROTECTION</u>	
A. General.....	31-33
B. Law Enforcement.....	33
C. Tort Claims.....	33
D. Weather Conditions.....	34
E. Fish and Wildlife Management.....	35-44
1. U.S. Fish & Wildlife Service Technical Assistance... 35-36	
2. Wildlife Management.....	36-39
3. Threats to Park Resources and Monitoring.....	39-44
F. Wilderness and Backcountry Management.....	44
G. Park Visitation.....	44



H. Lost and Found Summary.....	44-45
I. Entrance and Golden Eagle Collections.....	45
J. Special Use and Park Supplier Permits.....	45
K. Central Communications Center Records Summary.....	46
L. Fire Management.....	46-47
1. Structure Fire.....	46
2. Wildland Fires.....	46-47
3. Helicopter Operations.....	47
4. Search and Rescue.....	47
M. Forestry Program.....	47-48
1. Forestry Crew.....	47
2. Exotic Weed Control.....	47
3. Hazard Tree Removal.....	48
4. Backcountry Cleanup.....	48
CHARTS	
1. Law Enforcement.....	49-50
2. Percent Increase in Backcountry Use.....	51
3. Search and Rescue Operations.....	52-53

## V. RESEARCH

A. General.....	54-56
1. Bighorn Sheep.....	54
2. Northern Yellowstone Elk Herd.....	54
3. Bison.....	54-55
4. Ross' Bentgrass.....	55
5. Collecting Permits.....	55
6. Conferences and Meetings.....	55-56
B. Research Accomplished - Resulting in Major Publications.	56

## VI. MAINTENANCE

A. General.....	57
B. Buildings.....	57
C. Utilities.....	57-58
D. PRIP.....	58-60
E. Roads and Front-Country Trails - ONPS Funded.....	60-61
F. Energy Conservation.....	61-62
G. Health/Life Safety.....	62-63
H. Denver Service Center Projects.....	63-64
I. Telecommunications Services.....	65-66
J. Backcountry Trails.....	66-68
K. Operations.....	68

## VII. SUPERINTENDENT'S OFFICE

A. General.....	69
B. Public Information Office.....	69-74
1. Personnel.....	69
2. General Information Services.....	69-70
3. Press Releases.....	70





4.	Media Relations.....	70-71
5.	Official Visitors.....	71-72
6.	Filming Permits.....	72
7.	Meetings and Conferences.....	72-73
8.	Special Events.....	73
9.	Photo/Slide Requests.....	73
10.	publication Editing Requests.....	73
11.	Special Projects.....	73-74
C.	Data Processing.....	74-81
1.	Introduction.....	74-75
2.	Equipment.....	75-76
3.	Software.....	77-78
4.	Personnel.....	78
5.	Training Attended.....	78-79
6.	Training Given.....	79-80
7.	Users.....	80
8.	Services.....	80-81

# VIII. OTHER

A.	Auxilliary Programs.....	82
1.	Volunteers-In-Parks.....	82
2.	A Christrian Ministry in Yellowstone National Park..	82
B.	Status of Planning.....	82-83
1.	Old Faithful DCP.....	82
2.	Grant Village DCP.....	82-83
3.	PRIP Program.....	83
C.	Status of Design.....	83
1.	Package 620.....	83
2.	Grant Village.....	83
D.	Safety Program.....	84-86
	Visitation Statistics.....	87



## I. ADMINISTRATION

Administrative services continued to be held at minimum cost to benefit operation programs. Additional workload created by the continual growth of reports and special projects is being offset by computerization of administrative functions. The park's ONPS budget and FTE accounting were computerized and are fully operational for FY 83. Additional programs to be computerized include the warehouse stock and distribution accounting and expanded word processing for personnel and procurement documents.

### A. Budget and Finance:

During 1982, there was one change in the staff. The Lead Cash Clerk was replaced by Barbara Foster. A total of 7.7 workyears were expended.

Final FY 82 budget for the park was:

ONPS		\$ 9,929,000
General Management	421,200	
Interpretation	426,800	
Resource Management and		
Visitor Protection	1,961,500	
Maintenance	6,150,900	
Concessions	146,300	
Administration	666,300	
Research	156,000	
Education of Children		375,000
Energy		75,128
Stabilization Project		25,500
PRIP		1,607,125
Seasonal Sanitarian		16,100
Volunteers-in-Parks		2,700
Construction, Line Items		10,646,000
Construction, Lump Sum		6,000
Management Trainee		<u>8,700</u>
Total Park Budget		\$22,691,253

Fiscal transactions in FY 82 were:

Bills of Collection Issued:	973
Receipts Deposited:	\$ 783,690
Miscellaneous Bills Processed,	
Utilities, etc.: No:	365
Amount:	\$1,381,561
Journal Vouchers No:	246
Amount:	\$1,771,745
Fee Collection Receipts	\$1,631,933



## B. Personnel:

The Personnel staff had turnover in two of eight occupied positions. One seasonal processing clerk was hired by another federal agency and the Employee Development Clerk received a promotion in another division. Sue Childress was selected for the Employee Development Clerk position in October 1982, and the processing clerk position is still in recruitment. A total of 7.0 workyears were expended in 1982.

1. Staffing: We issued 56 announcements in 1982. Based upon FY 82 ceilings, we had four full-time permanent and nine less-than-full-time permanent vacancies at the end of the year. This number is lower than 1981 due to cutbacks in the park's position ceiling.

The turnover rate in Yellowstone was 12.5% as compared to 23% in 1981. This dramatic reduction in turnover is attributed to the general economic condition and cuts in the federal employment levels resulting in less opportunity for movement. There were 2 deaths, 2 retirements, 14 transfers and 7 resignations.

For the second year we recruited and filled seasonal laborer positions from a local announcement on an experimental basis. While the workload in the Personnel Office necessitated our not continuing the project into 1983, our results were very encouraging. In a two-year period, we increased the percentage of female laborer new hires from 12.5% to 22.8% and the percentage of minority new hire laborers from 6.3% to 7.6%.

2. Classification: In 1982, we completed 2,620 classification actions, conducted 143 desk audits, and referred 5 classification actions to the Regional Office for final action. Four status positions were recommended for upgrade while none were recommended for downgrade. There was one classification appeal denied and it was not appealed to a higher level.

Other studies involved an Office of Personnel Management study of the foreman standard, all district clerk positions and all GS-09 Park Ranger positions in the Ranger Division.

3. Employee Development: During 1982, 42 different training classes were attended by 332 employees. This was a decrease over 1981, due mainly to budgetary restraints. Eleven local training courses were offered with two being required supervisory training. A total of 71.3% of all training courses were completed in the park, 15.6% out of the park, and 13.1%



by correspondence. These figures reflect our continued efforts to provide more local training at reduced cost.

Quality Salary Increase Awards were received by Daniel N. Wenk and Judith A. Mihan, 21 length-of-service awards were presented and 7 employees received Special Achievement Awards totaling \$3,150. The recipients were:

Mary K. Murpny	\$250.00
Anthony Sisto	\$400.00
Curtis R. Edlund	\$600.00
Dunbar Susong	\$500.00
Vivian Bekemans	\$500.00
Peggy L. Starkweather	\$400.00
Randy Abegglen	\$500.00

Six employees received Suggestion Awards totaling \$1,280. The recipients were:

Robert R. Winkle	\$455.00
John W. Hamman	\$200.00
John W. Hamman	\$100.00
Thomas M. Geiger	\$ 50.00
Wallace J. Wagner	\$300.00
Steve T. Eskro	\$150.00
Ronald D. Thoreson	\$ 25.00

4. Worker's Compensation: One hundred and fifteen Worker's Compensation cases were filed in 1982, representing a decrease of 10% from 1981. This is less of a reduction than expected considering the termination of the YACC program on March 31, 1982.
5. Equal Employment Opportunity: Our status employment of women decreased slightly from 24.8% in 1981 to 24.3% in 1982. The percentage of women in wage grade positions and general schedule positions above GS-5 decreased from 7.8% to 6.9%. Our status employment of minorities decreased from 3.9% to 3.5%.

Seasonal employment of women increased from 25.6% in 1981 to 26.8% in 1982. Minority employment increased from 2.6% to 3.2%. Most of the seasonal minorities hired in 1982 worked in maintenance.

Meetings with employees were held at Lake, Madison, Canyon, Grant Village and Mammoth, in an effort to improve communications between management and employees. The meetings were well received.





6. Processing: In 1982, there were 2,371 actions processed, which was fairly typical. However, we had two open seasons for health benefits registration, plus a change in regulations for health benefits coverage for subject-to-furlough employees, which impacted workload.

C. Procurement:

The Procurement staff remained stable during the year. All procurement was accomplished with a total of 3.6 workyears expended, including the assistance of a seasonal typist. Procurements included 3,325 actions under \$10,000 each and 59 over \$10,000 each which includes 13 contracts. Total expenditures were \$4,621,446, an increase of 1.46% over 1981. We also assisted the Denver Service Center with a total of 11 Invitations for Bid, including numerous addendums.

D. Office Services:

One subject-to-furlough position was vacated due to a promotion. This position was filled as a permanent part-time position. A sample mail report was conducted in June by the Mail Room with the following totals: 2,220 envelopes, 80 special handlings, 22 airmail and 520 business replies.

E. Supply:

The Supply Center had a full staff during most of the year. The Supply Clerk position was converted from a permanent part-time to a temporary position. The garage parts operation, which was transferred to Supply last year, was not successful and was transferred back to the Maintenance Division. Several persons from Supply helped the Ranger Division during the months of April and May by working on the North Entrance gate. We did our annual inventory of supplies in September. One Warehouse Worker and a seasonal were hired to help the Maintenance Division with a quarters inventory. We processed 3,529 invoices during the year and had a total of 7,614 transactions through Supply.

F. Property:

A substantial effort has been expended to reconcile our capitalized property inventory and is nearing completion. Two employees attended a locksmith school and are now able to core locks and cut keys. All capitalized personal property leased to the concessioner (TWA) has been processed through the Regional Office and is included in the general ledger accounts. Revised quarters rates were implemented. Several hundred lost and found items were processed for disposal. The first combined GSA sale was held with TWA and 178 items were sold. Total receipts were \$53,753 of which \$54,433 was reimbursed to various accounts for replacement purposes and \$1,320 was deposited to miscellaneous



receipts. Fourteen items of excess property were obtained at a cost of \$62 for property valued at \$3,932. Work was initiated on picking up real property leased to TWA Services and is scheduled for completion by the end of January 1983.



## II. CONCESSIONS MANAGEMENT

### A. Personnel:

In April 1982, Mr. E. Lee Davis became Chief of Concessions Management in Yellowstone. Mr. Davis moved here from the Midwest Regional Office where he was Chief of Concessions.

In December 1982, Mr. Curtis R. Edlund resigned from his job as Civil Engineer in the Concessions Management Office and accepted a position as Director of Construction and Engineering Operations with TWA Services.

The position held by Mr. Edlund is being filled by Mr. Steve Iobst, who is presently an Environmental Engineer in the Maintenance Division in Yellowstone. Mr. Iobst will begin his new position in mid-February.

### B. Concessions Contracts:

1982 was the first year of operation under a new long term contract for TWA Services. This contract calls for a commitment of investing 22% of the gross revenue, along with all pretax profits in excess of 5%. The investment will be in repair and maintenance and capital improvements to government owned, concession operated facilities and equipment. The repair and maintenance and capital improvement commitment was \$4,928,993 for 1982. This amount included \$748,914 which was 1981 excess profits; out of this, \$2,244,542 was spent on repair and maintenance and the remainder was spent on capital improvements.

### C. Concessioners:

Mr. H. L. Ritchie was appointed as Executive Vice President and General Manager of the Yellowstone Park Division of TWA Services. Mr. Ritchie made the following appointments in management: Mr. Lauren Miles was appointed as Director of Transportation and Mr. Bruce Downie was appointed as Director of Operations.

TWA Services opened 100 new overnight units at Grant Village and provided food service in the marina building. Plans have been approved and the contract let for construction of 200 additional rooms and an employee dormitory. This construction is part of the commitment to advance \$7 million to the government for the development of Grant Village.

TWA Services operated the facilities at a satisfactory level and we feel park visitors were well served.

During the winter of 1982-83, new visitor services and accommodations were provided by TWA Services. The newly remodeled



Mammoth Motor Inn restaurant was opened for the winter season along with guest rooms in the Aspen Lodge. Snowcoach tours from Mammoth, snowmobile rentals and cross-country ski packages along with sleigh rides were also added to the winter program. These services and accommodations are in addition to what is provided at Snowlodge.

TWA Services reported 657,900 overnight guests during the summer of 1982 and 14,810 overnight guests during the 1982-83 winter season as of January 31, 1983. This compares to 669,324 overnight guests during the 1981 summer season and 12,096 overnight guests during the 1981-82 winter season for a decrease of .012%. TWA Services served 1,663,352 meals during the summer of 1982 compared to 1,508,838 in 1981 for an increase of .092%.

TWA Services has assisted the National Park Service in providing a quality visitor experience in Yellowstone. They have added string music and historic readings in both the Old Faithful Inn and Lake Hotel this summer. They have also conducted the historic chambermaid tours of various rooms with period furnishings.

Hamilton Stores, Incorporated, has begun plans for their new store at Grant Village. This store should be completed in 1984. They have also been advised that their facilities at West Thumb must be removed by 1984 to meet Master Plan goals.

No changes in management have occurred in Hamilton Stores during 1982.

Hamilton Stores reported a slight increase in sales over 1981.

The ratings for Hamilton Stores' 1982 formal evaluation were very high and they continue to provide excellent visitor service.

Yellowstone Park Service Stations' Operations Manager, Mr. Lauren Miles, resigned and accepted a position with TWA Services as Transportation Director. Mr. Hal Broadhead has been selected to replace Mr. Miles.

Yellowstone Park Service Stations reported that they sold 2,977,814 gallons of gasoline in 1982 compared to 3,220,034 in 1981 for a decrease in sales of .08%.

Yellowstone Park Service Stations also received very high 1982 evaluation scores and provided excellent visitor service.

West Park Hospital appointed Ms. Louise Probst as Administrator of medical services in Yellowstone. West Park reported treating 6,350 outpatients and 102 inpatients during the 1982 summer





season. They replaced the small trailer clinic at Old Faithful with a larger more modern mobile unit.

In addition to various life safety projects, Package 620 enabled us to complete the renovation and refurbishing of the Old Faithful Inn kitchen. This kitchen is now one of the most modern in existence and one which the National Park Service will long be able to point out with pride.



### III. INTERPRETATION AND VISITOR SERVICES

#### Introduction

It is appropriate that this report be prefaced with a few brief statements indicative of the perceptions of the new leadership in the Division of Interpretation.

Yellowstone is a large, endangered, heavily-visited natural system with worldwide significance and notoriety. In addition, it is a park encumbered by the inertia of tradition. While visitation continues throughout the year, most people visit the park from mid-May through mid-September. Visitor use is concentrated in several relatively small developed areas, or along narrow access corridors. Most visitors arrive with only superficial knowledge of the area, and with a mixture of anticipation and apprehension. Many of them have little free time and are intent on "seeing" Yellowstone in just a few hours enroute to another destination on a crowded itinerary. They often have common misconceptions about the nature of the Yellowstone system. It is a very different kind of country - at once spectacular, subtle, complex, and incompletely understood.

**The Role of Interpretation:** Interpretation is the art of enriching the visitor experience with understanding and meaning. It is both an affective and cognitive process. Not unlike education, one of its principal objectives is the modification of human attitudes about, and behavior in, the natural environment. To achieve the objectives of interpretation in Yellowstone National Park, unusual and often unconventional approaches to interpretation are required. Interpretation is prerequisite to fuller understanding. Visitors must take time to fully appreciate park values and interpretation can help to slacken their pace.

Definition of a "typical" visitor experience is not possible. Each park/visitor encounter is unique and it would be an impertinence to structure a common experience. However, an "optimum" experience should include opportunities to: 1) react physically and emotionally with the environment; 2) learn about its features and phenomena; and, 3) consider ways in which the park and its processes are relevant to contemporary life and times.

The task of the park interpreter is manifold. He or she must function at each of these levels respectively as: a facilitator, an instructor, and a provocateur. At the first, the interpreter is a trip planner, assisting the visitors to safely find their way about the park, and directing them to places of interest. At the second level of involvement, interpretation helps to generate public understanding of park resources and support of on-going or planned resource management and research activity. At the highest level, the skilled, sensitive and articulate interpreter begins to speak to the whole person... to address the heart and soul as well as the



mind...to suggest ways in which the Yellowstone experience may be relevant to the lives of the visitors.

By incorporating current information into regularly scheduled visitor activities and services, and by developing specific programs about the objectives and activities of research and resource management personnel, the division of interpretation functions as a communications intermediary between those respective divisions and the public sector. In fact, interpreters are the principal explicators of management policies.

A summary of the continuing objectives of interpretation follows:

Provide essential recreation-related information necessary for the safe and enjoyable utilization of park resources and visitor facilities.

Emphasize the complex, composite nature of the Yellowstone ecosystem...acquainting visitors with its major living and non-living components and their precisely ordered interrelationships.

Introduce, through appropriate methods, the concept of nature as process...functioning in dynamic equilibrium; and, of man as a potentially powerful biogeological force capable of accelerating change in the natural systems of Yellowstone.

Develop an understanding that complexity, diversity, high numbers of species and individuals, and low entropy, are generally indicators of environmental stability and resistance to deleterious influences; and to suggest that there are significant contrasts between natural diversity within the park and a tendency toward uniformity in the synthetic world of man.

Encourage visitors to develop an appreciation for the subtleties of Yellowstone...urging them to leave their automobiles and to come into closer personal contact with the natural world.

Suggest that to more fully experience this park, one should expand his awareness of things about him by being more openly receptive to the sensory messages continually emanating from the environment ...the sights, sounds, odors, textures...to try to respond with the uninhibited curiosity of the child that dwells in all of us.

Communicate the scenic, scientific, and cultural heritage of Yellowstone National Park through a variety of appropriate and well-conceived methods and media.

Make the Interpretive Division more responsive to the needs of park management so that it can become an effective strategic instrument of the Superintendent.



Ensure that the highest quality of interpretive facilities and services are provided, in order that the experience of each park visitor is enriched with meaning and significance.

Build an interpretive program that honors tradition but is unencumbered by it, and to stimulate its evolution through innovation.

Strive for professionalism in interpretive services, and to make uncommon excellence the common standard.

Increase local community awareness and understanding of current environmental issues, to promote greater involvement in the wise management and use of the natural systems of Yellowstone.

Generate, through improved interdivisional communications and involvement, a better understanding, in the interpretive staff, of park management policies, procedures, and issues.

Alter, in a positive sense, visitor attitudes about their environment; and to modify their behavior in ways that will be less inimical to the natural world.

Consummate the elusive union of environmental education with environmental interpretation. They are cut from the same cloth and simply tailored to fit different sized people.

Become a more active communications intermediary between local populations and the park...discreetly, candidly, and objectively assuming an advocacy role in issues of significance.

#### A. General Interpretation:

The summer operation was altered again in response to limitations in ONPS funds and management directives. The workload of operating campgrounds was shared with the Ranger Division, as it was in 1981, and visitor services such as walks and talks were pared. In spite of these measures, service appeared to be of fairly high quality, evidenced by a large number of written and verbal commendations of seasonal employees.

The Chief of Interpretation and Assistant Chief of Interpretation both transferred to the division from other positions in February. The North District Naturalist acted as Chief of Interpretation during the interim period and assumed many duties after the arrival of the new Chief which helped orient him to the area and the position. The Assistant Chief position description was rewritten to include duties as South District Naturalist. The new Assistant Chief assumed the responsibility of coordinating a staff planning of a successful one-week training session in June.





The division's secretary transferred in late summer, leaving that position vacant until the end of the year.

In September, the Rocky Mountain Region Interpreter's Conference, "Alliances in the 80's", was held in Yellowstone, with participants from 37 NPS areas, RMRO, Harpers Ferry Center, and WASO. The three-day conference covered issues of concern to interpretation in an age of cutbacks and crises, and was a positive effort toward better communications and cooperation Region and Servicewide.

The staff was composed of the following:

1. Permanent, Full-time

- a. George Robinson, Chief of Interpretation, transferred from Everglades National Park in February.
- b. Norman Bishop, Assistant Chief/South District Naturalist, transferred from Resources Management, YELL, to Interpretive Division
- c. Joe Halladay, West District Naturalist
- d. Tim Manns, Historian/North District Naturalist

2. Permanent, Less-than-full-time

- a. Phyllis Schoeninger, Secretary, transferred to GRTE in July
- b. Linda Green, Curator
- c. Bill Lewis, Oral Communications Counselor (summer only)
- d. Ted Parkinson, Assistant South District Naturalist (summer only)
- e. Bill Baker, Park Technician at Tower
- f. Dick Townsend, Park Technician at Mammoth (summer only)
- g. Joan Oliver, South District Clerk, transferred to Radio Shop May 30.
- h. Cris Rohn, South District Clerk, EOD June 4.
- i. Sharon Buck, Clerk Typist.

3. Area Supervisors, Seasonal

- a. John Whitman, Mammoth
- b. Fred Hirschmann, Norris
- c. Cawood Gilbert, Grant
- d. Harlan Kredit, Fishing Bridge
- e. Noel Ary, Canyon
- f. Tom Pittenger, Old Faithful



4. Non-supervisory Seasonals: There were 39 other seasonals, including six new-hires and one clerk-typist. In addition, we were assisted by two SCAs and numerous VIPs. One of the latter was John Good, retired Superintendent from Everglades, and another was Dick Hart, former Superintendent at Devils Tower.

There were no special assignments completed in 1982. The relief model of the Yellowstone region being done by Bill Chapman of Gardiner for the Yellowstone Library and Museum Association, which will be the center of new exhibits being planned for the Canyon Visitor Center, is still in progress.

There were no employee accidents within the Interpretive Division this year.

Interpretive Training: Under severe budgetary restraints, the staff planned and coordinated seasonal training for more than 40 participants. Some 450 hours of 7 interpretive staff members' time, costing \$6,707; 98 hours of 14 speakers' time, at a cost of \$1,369; and a \$2,625 donation from YLMA, contributed to the success of a low-cost training package attended on a voluntary basis by seasonal interpreters. Had they been paid, the program would have cost \$20,876. We hope the 1983 training can be fully funded, at \$25,000. That figure includes seasonal salaries.

The 1982 training consisted of a three-day orientation trip in a park van for eight trainees, June 1-3; and four days of scheduled sessions at the Lamar Yellowstone Institute facility on June 4, 7, 8 and 9.

## B. District Interpretive Activities:

1. South District (General): Resources Management Specialist Norman A. Bishop supervised winter interpretive operations in South District for the 1981-82 season. February 7, he was reassigned as Assistant Chief of Interpretation and South District Naturalist.

The warming huts at Canyon and West Thumb were staffed with YACC personnel and one seasonal park technician in 1981-82. The Canyon Warming Hut was operated from May 3-28 by VIP David Knotts. For 1982-83, Park Technicians Hirschmann and Bloethe are manning Canyon, and West Thumb is manned by VIPs Doris Tai, Dan White, and Liz Hadly.

After a voluntary training program June 1-11 and late hiring due to budgetary and administrative constraints, visitor centers in the South District opened on these dates:



Canyon	June 1 (Closed 9/26)
Fishing Bridge	June 11 (Closed 9/19)
Grant Village	June 14 (Closed 9/26)

Through the year, one full-time permanent GS-025-12 (.7WY), one GS-026-7 (.2WY), one GS-1710-11 (.2WY), and 21 seasonals, GS-4,5,6,7, aided by 25 Volunteers-In-Parks, provided services as summarized below:

Activity	Sites	Program Hours	Visitor Act. Hrs.	Work Years	Total Cost	Average Visitor Act. Hrs
Visitor Center	3	3,499	184,482	1.7	19,948	.11
Warming Huts	3	2,296	4,258	1.28	7,496	1.76
Roving	11	1,379	10,243	.65	8,234	.80
Guided Walks	24	1,970	42,544	.94	12,130	.29
Snowmobile Tours	1	111	1,035	.05	371	.36
Live Talks	10	388	121,251	.21	2,402	.02
Demonstrations	8	78	4,874	.04	487	.10
Public Involvement	3	17	0	.01	309	0.00
Fair	1	0	0	.01	151	0.00
Day Programs	1	7	161	.00	44	.27
Mud Volcano Contacted	184,950 visitors w/trail booklet					
Automatic Programs	3,510 showings contacted 51,838 visitors					
Canyon Guide Booklet	Contacted 348,000 visitors					

Reporting of volunteer hours contributed was casual, so the contribution of 10 volunteers at Fishing Bridge Visitor Center, and 13 at Canyon Visitor Center would be easy to understate. Further, Student Conservation Association Park Assistant Donna Dibbern at Grant worked a full interpretive and campground operation schedule for her assigned period June 10 - August 19, then volunteered for another 10 days to support the full schedule through August.

When unexpected telephone and other unprogrammed costs necessitated several early terminations, seasonal interpreter Maureen Briggs volunteered to keep the Grant Visitor Center operating from September 7 through September 26. Similarly, interpreters Steve Heaton, Mike Kendall, and Doug Key volunteered at Fishing Bridge September 7 through 19.

We advertised in the June Courier for recent NPS retirees to volunteer to help fall visitors enjoy Yellowstone. The first respondent was E&AA Board Chairman Richard Hart. He and YLMA salespersons kept Canyon Visitor Center open September 7-26, offering an ebullient alternative to an empty visitor center for 26,465 fall visitors.



John Good volunteered from June to September at Canyon for the second year.

Winter Operations: In 1981-82, warming huts at Canyon, West Thumb, and Fishing Bridge were staffed from December 15 to March 15 by six YACC Corpsmembers. A summary of that 90-day period follows:

Warming Hut Attendance

	<u>1981-82</u>	<u>1980-81</u>	<u>1979-80</u>
Canyon	5,276	7,736	7,311
West Thumb	5,000	5,544	5,392
Fishing Bridge	1,300	(Not in Operation)	

Some 74 snowmobile rim tours at Canyon served 690 visitors 1.5 hours each or 1,035 visitor activity hours (vah) at a cost of \$.36 per vah. At West Thumb, 23 thermal basin walks of 40 minutes each gave 156 visitors 104 vah for \$.49 per vah. Note that the difference in total vah on tours at Canyon is ten times that of West Thumb. It was on that basis, as well as the comparison of costs for roving contacts, plus the availability of volunteers to staff West Thumb, that Canyon was staffed with two paid interpreters and West Thumb was staffed by three volunteers the winter of 1982-83.

Summer Operations: With a new supervisor, as well as a new division chief, this was a season to observe and learn. South District Naturalist Norm Bishop audited and coached about 30 activities, and presented more than a dozen walks and talks. Norm and his assistant, Ted Parkinson, used an "Environmental Interpretation Activity Coaching Guide" as a tool to obtain objective, consistent, results-oriented coaching. The guide's nine points may be briefed as:

1. Established rapport; adapted presentation to audience.
2. Attracted and held group's attention.
3. Stated or implied objective of activity.
4. Helped participants identify with the place and with their neighbors.
5. Tied presentation to the theme and resources of the park.
6. Story helped visitors perceive relationship between health of the environment and their own health.
7. Encouraged park protection.
8. Mastered interpretive medium.
9. Elicited desired response; met objective.





Although "A Planning Sequence for Interpretation and its Evaluation" was presented and practiced at the June training session, few presentations audited showed that interpreters were planning their activities to meet preconceived objectives or to communicate a coherent theme. The use of individualistic, diverse means of communicating those themes will also be stressed.

Facilities: The Fishing Bridge Visitor Center and quarters 333 nearby, both over 50 years old, will be re-roofed in 1983, under the Cultural Cyclic Maintenance Program. Leaks in the roof of the visitor center had already streaked exhibit cases, so the action is most welcome.

Collateral Duties: Norm Bishop and seasonal supervisor Harlan Kredit served on the Lake fire brigade. Norm helped teach, and several interpreters attended, advanced first aid and cardiopulmonary resuscitation courses at Lake.

Innovation and Diversity: Although existing trails, features and facilities dictate where many activities will be held, several new activities were tested in 1982. At Canyon, six new activities were tried: Sensing the Plants; Genesis: A Search for some of the Origins of Yellowstone's Grand Canyon; Birds and Beasts of Hayden Valley; Brink of Three Falls Walk; Yellow Stones (7:30 p.m. rock talk), and Mountain Man's Yellowstone: 1838.

Two walks in the South District were overcrowded. One was the Wilderness Bear Dens Walk. We will delete the words "bear dens" from next year's schedule. Pelican Creek was also overcrowded during the peak period of mid-July to mid-August. We may send two interpreters to split the group, or schedule another attractive walk at Lake from mid-July to mid-August.

Several special walks were tried at Lake: Plants and Pollination, Bird Discovery Walk, and Especially for Kids. Several new activities are also proposed for next season.

From Grant, Lewis Lake campfires were reinitiated, and a children's nature walk was given.

Naturalist Seminars, sponsored by the YLMA and coordinated by Judy Visty, were given at Canyon Visitor Center. They were: "Yellowstone Caldera Studies and Potential Resource Problems"; "Foul and Fair in the Fish World"; "Up and Down with Small Mammals"; and "Life Returns to Mt. Saint Helens".



Shorter shifts (2 hours versus 4 hours) were tried at the Canyon Visitor Center desk, due to the intense visitor contact there (up to 7,800 people daily or 1,000 per hour maximum).

Subdistrict training at Canyon, Lake/Fishing Bridge, and Grant, are suffering from two factors: one, the supervisors enter on duty the same time or later than their employees. Two, the seasonal supervisors schedule themselves for activities to meet the increasing demand for services with a static or decreasing number of interpreters to respond. This leaves only remnants of time for management and training.

On the short term, earlier supervisor arrival dates, rescheduling, and assignment of more time to supervision is indicated. On the long term, with an established winter season and ever-extending fall and spring seasons, permanent sub-district naturalists for Canyon, Lake and Grant are needed.

2. West District (General): The interpretive program reached a new low this year due to budget constraints and administrative restrictions. Certain cut-backs were made in the scope of the program, particularly outside of the park, in an effort to maintain a high level within the park. Also, reductions were made in the winter staff in order to assure an adequate staff level for summer. In spite of cuts in the interpretive activities, a high level of visitor service was maintained throughout the year.

West Yellowstone: No interpretive personnel were involved in the gateway town of West Yellowstone this year, either winter or summer. However, as a result of our involvement during the winter of 1980-81, Garry Davies was asked to present a mountain man living history demonstration and Andy Beck was asked to present a program on the Old Faithful Inn to the West Yellowstone Historical Society at their annual meeting on August 20. Sixty people attended these presentations.

Madison Junction: During the 1981-82 winter season the three-sided warming hut was again set up in the parking lot of the Madison picnic area. Due to budget constraints, no interpretive personnel were hired to work in this area and the facility was operated by YACC personnel who were supervised by the Madison Area Ranger. Snow levels and conditions were back to normal this year, resulting in another year of heavy snowmobile traffic. The warming hut and the information available at this facility provided a much-needed service to these winter park visitors.



A year ago it was decided to replace the faded color photos on the winter wayside exhibits with black and white photos as a measure of economy. This proved unsuccessful, as the black and white photos wrinkled and loosened from their mountings midway through the winter. This year the photos were done in metal to provide durability and high quality mounting. These objectives were successfully met, but the photo images have a lower resolution quality.

A new roof was put on the Madison Museum this summer as a part of Yellowstone's ongoing effort to stabilize and restore historic structures. The work included replacement of some of the decaying structural members, new roof boards (plywood), and roof shingles. The work was performed under contract by Conservation Services Incorporated under the direction of Harrison Goodall. Opening of the museum to the public was delayed initially, until damaged photos on some of the exhibits could be replaced, and secondly, until the roof construction was complete.

West District Interpretation provided one seasonal position toward the operation of the Madison Campground again this year. Cheryl Antolik, GS-4 Park Technician, was employed from May 27 through September 8 in that capacity. Her duties included presenting a campfire program in the Madison Amphitheater one night per week. Beginning in August, she led a nature walk along the Madison River one day per week.

Old Faithful: The 1981-82 winter staff consisted of two YACC corpsmembers in addition to the West District Naturalist. At the onset of FY 1982, due to the budgetary picture, it was decided that no seasonal employees would be hired for the fall or winter seasons in order to defer those resources to assure an adequate staff level for the forthcoming summer season. An added measure was to delay some of the spring hiring by a few days. The visitor center remained open to provide maximum service throughout all visitor seasons, but interpretive activities were reduced.

The visitor center was open for the winter season from December 17, 1981, to March 17, 1982. Regular hours were from 9 a.m. to 4:30 p.m. daily. It was open only three evenings per week, from 8 p.m. to 9:30 p.m., to present slide programs.

Guided walks were offered in the Upper Geyser Basin at 2:15 p.m., Monday through Thursday, and at 10:30 a.m. and 2:15 p.m., Friday through Sunday of each week. For the winter, visitor center attendance was 11,900. A total of 375 visitors enjoyed the 70 Geyser Hill Walks, and 2,225 attended the 36 evening programs.



The oil furnace at the visitor center remained turned off as we continued heating the building by means of the wood-burning stove which we installed in the lobby fireplace. The original stove was replaced in November 1981 by another of the same make and model (Blaze King). The side walls of the fire pot had warped in several places and had cracked in the corner.

Since the auditorium and the upstairs projection room were not heated, the regular A/V system and the geyser movie were not used.

The backcountry use permits were issued from the ranger station this winter rather than from the visitor center as in past winters.

The visitor center reopened on April 2 for the regular season with the roads on the west side of the park being opened to wheeled vehicles. Jeannine Wagner and Michelle Marti, whose YACC appointments had expired, stayed on as VIPs to assist the West District Naturalist with the operation until mid-May, when three seasonal naturalists were hired. A fourth was hired prior to Memorial Day, with the remainder being hired June 8 or later. The final summer staff consisted of one GS-7 seasonal supervisor, nine GS-5, and four GS-4, park technicians (including the campground position). This is the same total number as last year.

A full schedule of interpretive activities was offered through August 25 when visitor traffic began to decline and some employee appointments expired. Some walks and evening programs were continued through September 23. The visitor center remained open through October 31. This was an exceptional season with high morale, excellent teamwork, and outstanding performance.

For the summer, approximately 519,893 visitors entered the visitor center, 151,582 attended the 3,031 audio-visual showings, 13,984 participated in the 342 guided walks, and 36,428 came out to the 272 evening programs.

The Madison winter warming hut was set up along the walkway between the east parking lot and Old Faithful Geyser for the summer. Maps and other informational literature were displayed and it received considerable attention from the visitors. It is expected that even more can be offered through that facility next year.

Throughout the year special programs or guided walks were presented to school groups, special visitors, and dignitaries. Additionally, on November 4, the West District Naturalist presented a seminar to the Idaho State Park





managers at their annual conference, which was held at Harriman State Park.

In the latter part of the summer the West District Naturalist requested that the visitor center auditorium be evaluated for the possible installation of a woodburning stove, or some other method of heating, in order to make it available for use in the winter. The maintenance division decided to reactivate the building's heating system and isolate it to serve the auditorium only. This was accomplished in November. The lobby area will continue to be heated by the woodburning stove.

3. North District (General): As in 1981, the North District interpretive staff provided interpretive services and information at Mammoth Hot Springs, Norris, and Tower. The staff was the same size as during the previous summer.

Until May 31, the district staff, all located at Mammoth Hot Springs, included the District Naturalist, full time volunteer Maureen Briggs during January, and Young Adult Conservation Corpsmembers Anne Rockhold and Paula Vernon until the termination of that program in mid-April. Paula continued as a volunteer and Marjorie Siring worked briefly as a park aid. The Albright Visitor Center remained open from 8:30 a.m. to 5 p.m. throughout this period. Park Curator Linda Green also assisted with staffing the information desk as did North District Clerk Jan Reimer. Jan's earlier position as Mammoth subdistrict clerk in the Ranger Division was combined with the district clerk position.

After a poor showing in 1981, the Winter Wildlife Camera Safari was reduced to a total of three programs, with the day and time changed to Saturdays at 9 a.m., from Sundays at 8 a.m. One hundred fifty seven people in 44 cars attended these three programs; an average of 25 people per program, versus 9 people per program in 1981, and 11 in 1980. Logistical and safety problems with handling groups of this size suggested the need for a reservation system. The Gardiner Chamber of Commerce continues to co-sponsor this program, providing CB receivers for participants needing them, and printing and distributing a flyer. The Public Information Office sent press releases to the media, and advertising of the program was extensive.

As in previous years, special programs were provided early in the year for educational groups visiting the park, ranging from grade school to university level.

The work of the North District interpretive staff focused on providing visitors with the information and programs



necessary for a safe, informative and enjoyable visit to Yellowstone. The program particularly contributed to the efforts of park management in the areas of visitor safety (through information concerning bears, thermal hazards, etc.), and protection of the resources of the park, especially in thermal areas and in places frequented by wildlife. In each North District area at which ranger-naturalists were located, a portion of the program advertising was designed to allow the staff flexibility in creating new programs to further these goals.

Mammoth: From June through the end of September, the Mammoth area interpretive staff included GS-7 subdistrict naturalist John Whitman, GS-5 subject-to-furlough park technician Richard Townsend, GS-5 seasonal naturalists Alan Leftridge and Donald Cala, GS-4 seasonal naturalists Beth Weston and Arden Bailey, Student Conservation Association volunteer Paula Vernon, and Yellowstone Library and Museum Association sales clerk Elaine Vandersnick, a group equal in number to the 1981 staff. Beth Weston and Donald Cala were new to Yellowstone.

From mid-June to Labor Day, the Albright Visitor Center was open from 8 a.m. to 7 p.m. Visitation for the year was 165,971, a decrease of 17% from 1981. During the year, the movie "Challenge of Yellowstone" was shown in the visitor center 1,490 times to 34,221 people, and an automated slide program on winter in the park was shown 1,556 times to 31,544 people. Members of the ranger and naturalist staffs on duty in the visitor center issued 1,266 backcountry permits and inspected 736 employees' vehicles for issuance of entrance permits.

During the summer, evening programs were offered at the Mammoth Hotel and Mammoth Campground on alternate nights, with 10,046 visitors attending 85 programs. Attendance at the 63 campfire programs (5 nights each week) at Indian Creek Campground was 3,112. The interpreters also contributed 40 hours per week to the operation of this campground and the one at Mammoth, contacting campers at each site to deliver information about food storage and to collect fees. Michelle Chamberlain and Floria Parker of the Ranger Division, and Beth Weston of the Naturalist Division, also offered special programs for children in the campgrounds. The 16 sessions were attended by 298 children.

A "Discover Mammoth" program, designed in part to introduce people to the variety of features and habitats in the area, drew 1,830 visitors for 55 walks to the Upper Terraces, the Hoodoos, and other places. A new program, "Life in a Yellowstone Marsh", which took place at Blacktail Ponds, was offered 5 times to 48 people.



The "Fort Yellowstone Walk" living history program, which emphasizes the resources management and protection work of the U.S. Army in Yellowstone around 1915, took place 23 times with 1,080 visitors participating. A new puppet program was presented Friday afternoons on the lawn beside the Albright Visitor Center, with 309 visitors attending seven programs.

Ranger-naturalists on roving interpretive duty on the terrace boardwalks played an important additional role in protecting the travertine formations from people leaving the paths and in ensuring the safety of visitors. The Maintenance Division's boardwalk crew also made a significant contribution in this area, replacing the sections of walkway most deteriorated or most immediately threatened with flooding.

In late summer, the decision was made to offer interpretive programs in winter 1982-83. TWA-Yellowstone's decision to open the Mammoth Hotel during the winter, as well as the visitation pattern of past years, suggested that experimenting with programs would be worthwhile. The goals of the program are to provide visitors with accurate information to allow a safe and enjoyable visit, to encourage the safe viewing of wildlife without causing stress to the animals or any alteration of their natural behavior, and to help visitors experience and come to appreciate the special qualities of winter in Yellowstone, through a variety of programs and activities. Trips on skis, snowshoes, and on foot have been offered in the Terrace area, at Tower, and on Blacktail Drive as well as evening programs in the Mammoth Hotel. Attendance was highest the week after Christmas. From December 17 through December 31, 202 visitors attended 11 evening programs and 40 attended 8 walks and ski trips. Program announcements in the form of a biweekly bulletin, the "Hot Water News", have been distributed widely in the local area. In the second half of the winter, advertising will be expanded to the Bozeman and Livingston areas.

Major thermal activity on the Mammoth Terraces was located in the same locations as last year. Significant changes in the course of the year included a renewal of the flow at Opal Terrace after a period of almost complete dormancy, a shift in the location of Minerva's vents, and the approach within 30 feet of the Upper Terrace Road by the runoff from the large spring which began flowing in 1978 (across from Bath Lake). Unlike the previous two years, when it was active during the summer months, New Highland Terrace did not flow at all this year. Jupiter and Canary Springs remained those of the highest apparent flow. The spring forming on the south side of Narrow Gauge Terrace continued its rapid vertical growth. During the summer, Tim Manns,



John Whitman and Alan Leftridge descended to the bottom of Devil's Kitchen on the Upper Terraces, finding a 122 F. degree pool and air that was warm but breathable.

Norris: The 1932 ranger-naturalist staff included GS-6 seasonal supervisor Fred Hirschmann, GS-5 seasonals Carolyn Raleigh and Peter Allen, and GS-4 seasonal Cheryl Bloethe. Peter was new to Yellowstone. Three members of the staff were qualified as Emergency Medical Technicians and two had law enforcement commissions, allowing the naturalists to be of frequent assistance to the two patrol rangers assigned to the Norris area.

Norris is a perennially busy area in which cooperation between the naturalists, rangers and maintenance staffs is essential. Many examples of working well together in this busy area of the park could be cited from this summer's operation.

As in previous years, the safety of visitors in the area and the protection of the thermal features in Yellowstone's hottest geyser basin were major concerns of the interpretive and informational programs. While several severe thermal burns occurred in 1931, there were none in 1982. Removal of debris thrown into the thermal features and the issuance of courtesy tags, or, when necessary, citations to those causing damage and endangering themselves, were regular parts of the interpreters' duties. As last year, the staff also contributed the equivalent of one position to the operation of the Norris Campground.

Ranger-naturalists were on duty at Norris from June 1 through September 5. Fred Hirschmann continued until the end of September in a split position between the Naturalist and Ranger Divisions. In future years, it would be advisable to have someone on duty at Norris earlier and later in the season while the roads are open to protect the fragile thermal features and provide emergency assistance and basic information and interpretation to visitors. This would also enable us to keep the museum open during those periods when it is now closed.

Interpretive programs in the geyser basin area included 45-minute walks in Porcelain and Back Basin, brief talks at Steamboat and Echinus Geysers, and roving interpretive contacts. There were 342 basin walks, attended by a total of 14,536 visitors, while 474 geyser talks were presented to 18,154 people. During the nights closest to the full moon, 10 geyser basin walks were attended by 556 visitors.

Eighty-two nightly campfire programs in the Norris Campground were presented to 7,683 people, and a new "Campfire





Coffee" morning program at the amphitheatre offering suggestions on how to spend a day in the park, was scheduled 11 times with a total attendance of 248 campers. For the second year, a special children's walk was also offered at the campground, drawing 142 participants in 12 programs.

Hikes to Monument Geyser Basin were much better attended than in previous years when they had been offered occasionally. This walk and one offered to Artist Paint Pots together took place 16 times and were attended by 411 people. Three hundred twenty visitors participated in the 12 hikes to Sylvan Springs at the west edge of Gibbon Meadows. These programs are part of an effort to enable people to safely visit thermal areas they would be unlikely to explore and should not explore without a knowledgeable guide.

The Yellowstone Library and Museum Association opened a small sales outlet in the breezeway of the museum at mid-summer. The excellent level of sales soon justified this experiment. The YLMA sales clerk also helped ensure more continuous coverage at the museum's information desk.

Park Restoration and Improvement Program funds made possible the construction of new public restrooms in the parking lot area. Some years ago the Norris naturalists made known the fact that the leach field serving the restrooms located near the museum was filtering down to the geyser basin, promoting a very lush growth of vegetation on the slope and drawing questions from visitors noticing the odor.

Thermal activity at Norris was highlighted by the renewal of Steamboat Geyser's major eruptions on January 13, when Cheryl Bloethe, serving then as a YACC at Canyon, discovered that Cistern Pool had drained and several feet of snow had suddenly disappeared from Steamboat's runoff channel. By the year's end, 23 major eruptions had occurred and the Norris area hosted large crowds of visitors and park employees attracted by the renewed activity of the world's largest geyser. Until January, Steamboat had not had a major eruption in almost three years.

The "fall" disturbance, during which water throughout the basin each year in August or September changes in turbidity, temperature and thermal activity, occurred on July 6 in 1982, the earliest date on record. Early in the year, a major new area of springs was discovered at the Hydrophane complex, with lodgepole pines dying in a 200 to 300 foot area of newly hot ground. Sunday Geyser maintained its level of activity and remained a major attraction for visitors at Norris.



Beginning December 15, Canyon seasonal naturalists Fred Hirschmann and Cheryl Bloethe spent a total of one day per week at Norris, contacting visitors, monitoring thermal features, clearing snow from signs, and removing fallen trees from the paths.

Tower: GS-5 Park Technician (subject-to-furlough) Bill Baker served again as sole ranger-naturalist in the Tower area. When Bill became ill with pneumonia two weeks before Labor Day, members of several divisions and offices helped continue his schedule of evening campfire programs, and the North District Naturalist led the scheduled walks. Lack of staff forced the cancellation of several programs. Throughout the summer, the Tower area rangers presented the Saturday night campfire program.

At the Tower Campground, 3,217 people attended 56 campfire programs. Five hundred ninety three visitors hiked with the ranger-naturalist to the Fossil Forest on Specimen Ridge on 23 trips, and 592 individuals participated in the 24 Discover Tower-Roosevelt programs which went to the Lamar Valley, the Blacktail Plateau Drive, Lost Lake, and other locations. Bill also contacted many visitors while on roving interpretive patrol at Petrified Tree, Tower Falls Overlook, and Calcite Springs Overlook.

#### C. Historian and Yellowstone Park Archives:

The North District Naturalist is also the park historian and archivist and supervises the curator and two librarians. During the year, 70 reference requests from the public, 26 from the Yellowstone Park staff, 13 from the Rocky Mountain Regional Office staff, and 6 from TWA Services, were answered by the historian. (Additional reference requests are handled by the Curator and Librarians.) Unsolicited information was also sent to staff members and others working on particular projects known to the historian. Subjects ranged from historic structures and events in the park to previous park management policies and people associated with Yellowstone in the past. Reference assistance was given to both amateur and professional historians and writers.

In August, the historian presented a program on Yellowstone history at the Montana Historical Society and met with the designers preparing the permanent Haynes exhibit at that institution. He also attended the Wyoming State Historic Preservation Conference in May at Cody. Other contacts with historical institutions were maintained by telephone and mail.

The historian worked closely with the Regional Office staff in providing information for the preparation of National Register



nominations of historic Yellowstone buildings. The nominations were written by Architectural Historian Mary Shivers Culpin with the park historian preparing comments for the Superintendent's approval. During 1981, the Obsidian Cliff Kiosk, the Madison Museum, and the Old Faithful and Lamar Buffalo Ranch Historic Districts were accepted to the National Register of Historic Places.

Drafts of publications being produced both by the park and by other organizations were reviewed for historical accuracy.

The historian spent a large amount of time culling central park files dating from the late 1960's into the mid-1970's to select those records suitable for long-term retention in the archives. In addition to these records, other files to be culled were received from seven park divisions and offices. There was generally a good level of cooperation on the part of the park's offices in not discarding records before they were evaluated for historical value. Shelving purchased in 1981 was set up in the archives to accommodate records previously stored in boxes on the floor and to allow proper storage of large Yellowstone Park Company ledgers in accordance with the recommendations of the National Archives and Records Service (NARS). Yellowstone maintains an archives by special agreement with NARS, which has legal responsibility for all federal records. On November 2, Joel Barker of the NARS staff in Denver inspected the park archives in accordance with this agreement.

It should be noted that during the year establishment of a TWA furniture restoration shop and the renovation of some of the hotel interiors was an important step in recognizing and enhancing some of Yellowstone's significant cultural resources.

#### D. Library:

The Yellowstone Library and Museum Association funds the research library located in the basement of the Albright Visitor Center at park headquarters, paying two part-time librarians and buying all books and subscriptions. The library was open Monday through Friday a total of 19 hours per week throughout the year, the same level of operation as in previous years. Although the demand for service and the amount of material to be catalogued call for additional hours, YLMA does not yet have the funds for expansion of library services.

During 1982, 897 patrons used the library, including 400 employees of the National Park Service and 497 members of the general public. This total is an 11% increase over last year, and does not include the daily use of the facility by the historian, curator, and visitor center staff. Three hundred seventy eight books were circulated, 50 interlibrary loans



processed, 150 new books added to the collection (a 25% increase over last year), and an estimated 150 items were added to the vertical files (approximately half of last year's number). The librarians responded in writing to 33 requests for information, mostly historical, and assisted most library patrons with reference work. Fifteen donations of books, articles, and pamphlets were accepted, totaling several hundred items and ranging over a wide variety of topics. Among the donors were former Yellowstone Superintendent and National Park Service Director Horace M. Albright, and former Chief Park Ranger George Bagley. During the summer Mr. Albright's daughter, Mrs. Roswell Schenck, used the library to do research for articles being written by her father.

The cataloguing and cross-indexing of the map collection, begun in 1981, was completed in 1982 by Young Adult Conservation Corpsmember Paula Vernon. Volunteer Sue Howland transferred the entire manuscript collection into acid-free folders, a major improvement in the quality of care which these rare documents receive. The manuscript collection includes correspondence from President Theodore Roosevelt, first Yellowstone Superintendent Nathaniel Langford, Yellowstone explorer General Henry Washburn, and many others prominent in the history of the first national park. Terry Russell, a member of the seasonal helitack crew, volunteered his extensive knowledge of rare books about the American West to assess the value and condition of the book collection, making recommendations for further improvements in the management and care of this important part of Yellowstone's cultural resources.

The Yellowstone Library, with its beginnings in the office of Army Engineer Captain Hiram Chittenden at the end of the last century, continues to play a valuable role in satisfying the curiosity of many people about the resources, origin, and history of Yellowstone National Park.

#### E. Curator:

Park Curator Linda Green continued to be involved in a variety of interpretive functions in addition to regular duties of collection management, exhibit work, master slide file management, and involvement with interpretive publications.

Yellowstone received hundreds of objects from thoughtful donors. Horace M. Albright donated hundreds of unique photographs and memorabilia to the park, including a nearly complete set of photographs of Secretaries of the Interior. Fish and Wildlife personnel made an unusual discovery of a rhyolite bowl in almost perfect condition. All items are valuable additions to the collection and continue to expand our knowledge of the park's human and natural history.





Collection use was up this year. A number of seasonal employees were interested in the study skins, and several university students and faculty made arrangements to work with the archeological objects.

A great deal of exhibit work was accomplished in 1982. Cast aluminum wayside exhibit panels at Norris Soldier Station pullout, Gibbon Falls, Swan Lake Flats, Lamar Geology turnout, Fossil Forest turnout, Hayden Valley Birds exhibit, Hayden Valley grizzly exhibit, and the Artist Point wayside exhibit were rehabilitated via contract with Bill Chapman of Gardiner, Montana. A revised geyser prediction board was installed at Norris Museum. Madison Museum received a new Moran reproduction of the painting of the Grand Canyon of the Yellowstone, and four other photo reproductions were replaced. The curator prepared 10-238's for exhibit rehabilitation in visitor centers and wayside areas around the park. At year's end, the renovation of the Madison Museum was receiving greatest attention at the Regional level.

The master slide file received heavy use by park staff, staff from other NPS areas, and TWA personnel. A tally of almost 100 separate occasions of MSF use was recorded. VIP Bruce Talbot accomplished a major revision of the "Birds" category, rearranging the files and revising nomenclature.

The curator coordinated the production and distribution of a spring interpretive leaflet, two summer leaflets, and a revised winter map/brochure. An approximate total of 650,000 leaflets were produced this year, with primary cost of publication assumed by the Yellowstone Library and Museum Association. A fall brochure was not printed in an effort to reduce expenditures.

The curator participated in planning the seasonal interpreter's training and conducted one session (with the park historian) on Cultural Resources. The curator spent two weeks at Old Faithful as Acting West District Naturalist and was called upon to conduct tours for the National Park Foundation and the Regional Interpreters Conference. She participated in the North District interpretive program by conducting an evening talk at Indian Creek one night a week throughout much of the summer, filling in during the illnesses of summer personnel, and working at the Albright Visitor Center during periods of staff shortage, training or illness.

EEO-FWP: The curator continued to serve as Federal Women's Program Manager and was involved in EEO training and Action Plan item projects throughout the past year.



F. YLMA (Yellowstone Library and Museum Association):

The association's income was up approximately 8.5% this year compared to last year. Norris Geyser Basin added a small sales outlet which did surprisingly well without affecting sales in other areas. Final figures on association operations and donations to the NPS are not available at this time, pending completion of the annual audit.

One major publication, Yellowstone Fish, is still in progress, and will be out in April 1983. Yellowstone Waterfalls is progressing, and the contract for Norris Geyser Basin was cancelled.

In 1981, matching funds for Grant-Kohrs National Historic Site provided for their Oral History project by YLMA and the Montana Committee on the Humanities. The Yellowstone Library and Museum Association completed its share of the funds and project help this year.

The Board of Directors formed a nominating committee to replace Alice Fryslie, who asked to be relieved of her responsibilities for the present.

A major activity of the association was the continuing operation of the Yellowstone Institute. Major expansion and rehabilitation work on the Lamar Valley Buffalo Ranch facilities was completed in 1982 and it was used during the summer season. The 1982 year was a very successful year for the Institute as it continued to grow and provide quality educational experiences for its participants.

A memorial fund was set up in the name of John Townsley to be administered by the association. The money is designated for projects that were considered of importance by Mr. Townsley, and the balance by early 1983 was \$3,055.

The Yellowstone Institute: Offered 40 courses covering all aspects of natural and human history in Yellowstone. Four hundred and ninety persons participated in Institute courses, an increase of 300% over 1980. The participants ranged in age from 7 to 82; over the past three years they came from every state and six foreign countries, and encompassed a wide variety of employment, economic, and social backgrounds. In 1983, the courses will be expanded to over 50, including 15 entirely new courses. Director Rick Reese commented that, quite simply, the purpose of the Yellowstone Institute is to try to slow folks down a little and get them to take the time to understand and appreciate more deeply the significance of Yellowstone National Park.



H. Bighole National Battlefield:

In 1982, Bighole National Battlefield was separated administratively from Yellowstone National Park. Yellowstone's role is now advisory, upon request. The Yellowstone Library and Museum Association continues to function as the cooperating association for Bighole National Battlefield, as it does for Grant-Kohrs National Historic Site.



#### IV. RESOURCE MANAGEMENT AND VISITOR PROTECTION

##### A. General:

1982 was an active year for administrative changes in the Ranger Division. Eight area rangers were moved within the park to new duty stations; four in April and four in November. Minor organizational changes were adopted in the Chief Ranger's Office, and groundwork laid for further change in 1983.

With the adoption of full-time equivalency personnel ceilings, the division added three career positions to the workforce during 1982. Two of these positions were Park Technicians (Old Faithful and North), and one was a Fire Protection Inspector, located in Mammoth. We also received ceiling and partial funding for a Resource Management Trainee position. Ten new persons came into the division in 1982.

Last year's curtailment of winter and fall seasonal employees saved the division approximately \$100,000, enabling us to have adequate staff coverage during the summer. This is especially significant because of the cessation of the YACC program which provided 12 support positions to the division in 1981.

The staff was composed of the following:

1. Supervisory - Permanent and Subject-to-Furlough
  - a. Thomas O. Hobbs - Chief Park Ranger
  - b. Kenneth Czarnowski - Resource Management Specialist
  - c. Gary Brown - Forestry, Fire and Bear Management Specialist
  - d. Robert J. Mihan - Law Enforcement Specialist
  - e. Thomas R. Black - Emergency and Air Operations Specialist
  - f. John Lounsbury - Canyon District Ranger
  - g. Judy Kuncel - South Entrance Area Ranger
  - h. Ron Sprinkle - Old Faithful Area Ranger
  - i. Dave Spirtes - Lake Area Ranger
  - j. Steve Martin - Old Faithful District Ranger
  - k. Stewart Orgill - Gallatin Area Ranger
  - l. Bob Main - East Entrance Area Ranger
  - m. John Donaldson - North Entrance Area Ranger
  - n. Marv Miller/Dan Moses - Madison Area Ranger
  - o. Pat Ozment - Grant Village Area Ranger
  - p. Douglas Barnard - West District Ranger
  - q. Richard T. Danforth - North District Ranger
  - r. Anthony Sisto - Tower Area Ranger
  - s. Jesse Rivera - Northeast Entrance Area Ranger
  - t. Dunbar Susong - Bechler Area Ranger
  - u. Timothy Blank - Lake District Ranger
  - v. Gerald Mernin - Snake River District Ranger





- w. Norma Turner - Communications Center Supervisor
- x. James N. Sweaney - Supervisory Forestry Technician

2. Non-Supervisory - Permanent and Subject-to-Furlough

- a. Ruth Cothrun - Staff Assistant
- b. Wayne Hamilton - Physical Science Coordinator
- c. Mary Murphy - Management Assistant
- d. Laura Bittner - Law Enforcement Clerk
- e. Joan Larsen - West District Clerk
- f. Sandi Fowler - Park Technician, Resource Management
- g. Kathy Smyth - Chief Ranger's Secretary
- h. Rick Hutchinson - Park Geologist
- i. James Hotchkiss - Animal Packer
- j. Gary Dunning - Smokejumper
- k. Mary Ann Straiski - Telephone Operator
- l. Shirley Squire - Lead Dispatcher
- m. Vanne Shade - Lead Dispatcher
- n. Steve Sarles - Lead Dispatcher
- o. Cathy Zarki - Lead Dispatcher
- p. Jan Reimer - North District Clerk
- q. Jack Gulvin - Resource Management Trainee
- r. Mona Divine - Park Technician, Old Faithful
- s. Joe Fowler - Park Technician, North

3. Supervisory Seasonals

- a. Chuck Bolle - Forestry
- b. Chet Cantrell (STF) - Old Faithful
- c. Les Herman - Helicopter Operations (Mammoth)
- d. Gerry Jones (STF) - Grant Village
- e. Chet Keller (STF) - Madison
- f. Bud Ross (STF) - South Entrance
- g. Denman Smith (STF) - Lake
- h. Ted Weight (STF) - North
- i. Doyle Yaney (STF) - North

The division had a total of 129 seasonal personnel, with 54 new hires in 1982, plus 2 volunteers, 4 student interns, and 12 Student Conservation Association assistants. Total volunteer and paid workforce was 200 persons.

Volunteer support in the division skyrocketed in 1982! The Student Conservation Association granted Yellowstone two high school work groups during the summer. Each of the groups were composed of 10 students and 2 work leaders, and were located in the Old Faithful and Snake River Districts. They relocated, signed and marked trails, installed water bars, and generally provided great backcountry resource management rehabilitation to the park.

Another great volunteer effort established in the park in 1982 was the Good Sam Campground Host Program. Twenty persons were located throughout the park's campgrounds and information



D. Weather Conditions:

The yearly recorded total precipitation was 19.54 inches at Mammoth, 34.74 inches at Snake River, 23.24 inches at Lake, 15.79 inches at Tower, and 28.66 inches at Old Faithful. Precipitation totals departed from normal as follows: Mammoth +2.95, Lake +3.53, and Tower -2.07 inches.

The average temperature for the year was 30.6 degrees F. at Lake and 32.2 degrees F. at Snake River.

The maximum temperature for the year was 89 degrees F. recorded at Mammoth on July 22 and August 18. The minimum was -44 degrees F. at Lake on February 5 and 6 and at Snake River on February 5.

The greatest daily precipitation amount was 1.12 inches on February 15 at Snake River.

On January 1, North, Northeast and West snow course measurements were 8-31% below normal. All other snow courses in the park were above normal, ranging from 9% above normal at Thumb and 81% above normal at Snake River.

On February 1, North and West snow courses were 11-23% below normal. All other snow courses were above normal, ranging from 3% at Northeast to 53% at East Entrance.

On March 1, North, Northeast and West were 11-22% below normal. All other snow courses were above normal, ranging from 4% at Norris to 40% at Lewis River Divide.

On April 1, North, Northeast and West were 5-16% below normal. All other snow courses were above normal, ranging from 14% at Norris to 61% at East Entrance.

On May 1, all snow course measurements were above normal, ranging from 2% at Sylvan to 78% at East Entrance.

"Normal" is derived from a 15 year average of water content measured at each snow course location.

Snow course stations with normals established in the park include Northeast, Lupine, Norris, Lake, Sylvan Pass, East Entrance, Lewis Divide, Aster Creek, Thumb, Snake River, West and 21-Mile. New courses in the park are Old Faithful and Norris.

Rain and snow melt samples continue to be sent to the U.S. Geological Survey in Reston, Virginia, for measurement and analysis of tritium concentrations. This monitoring program has been going on for over two years at the Old Faithful weather station.



offices and provided an enormous amount of information and other visitor services to the public.

B. Law Enforcement:

Mr. Frank Hess assisted as an intern of the U.S. Attorney's Office during the summer months.

Special Agents of the FBI SWAT teams from the Montana/Idaho, Utah, and Colorado divisions attended a winter survival/map and compass course presented by park rangers in February.

A number of park rangers were appointed as Deputy Game Wardens by the U.S. Fish and Wildlife Service to assist in the enforcement of federal fish and wildlife laws.

The park is being represented at meetings of the Law Enforcement Coordinating Committee established by the U.S. Attorney for the District of Montana.

Total law enforcement commissioned personnel during 1982 broke the 100 mark. There has been a very noticeable increase in the professionalism with which this function is discharged since the inception of the present training and commission policies.

Two mandatory 40-hour refresher courses were held during the year, training a total of 87 rangers. In the first session, seven U.S. Fish and Wildlife Service personnel were also trained. These sessions are held for the purpose of providing training required by Servicewide policy.

Part I, or serious offenses, totaled 261 for the year, with a property loss of \$117,272, of which \$16,480 was recovered. There were 1,360 violation notices issued, and 464 motor vehicle accidents were investigated. The U.S. Magistrate heard 160 cases, and 9 cases were forwarded to the U.S. District Court in Cheyenne.

It is estimated that the manual compilation of the law enforcement statistics required for quarterly and annual reports takes over 200 hours per year.

See pages 49 and 50 for charts.

C. Tort Claims:

During 1982, there were 33 claims filed, none of major consequence.



## E. Fish and Wildlife Management:

### 1. U.S. Fish and Wildlife Service Technical Assistance Project:

Approximately 200,000 fishing permits were issued, with volunteer fisherman report cards attached. These cards provide fishery statistics on over 100 different waters. Data was tabulated, evaluated and presented in the Annual Technical Report. Interviews at the exit gates were accomplished in 1982. The Annual Technical Report for our aquatic and fishery management program was completed and has been distributed. Information included in this report was the result of data collected during the 1981 calendar year and encompasses an indepth view of all facets of our project activities.

Backcountry waters survey program - The backcountry lake program completed surveys on seven lakes in 1982. The backcountry stream survey program completed work on 16 streams and started work on 1 other.

Yellowstone Lake - Spawning traps on Pelican and Clear Creeks were run during the first part of the season, but were both pulled due to flooding after about three weeks of operations. Data collection on the spawning run is incomplete for 1982. The lake cutthroat population was sampled on a biweekly basis with gillnets. The annual lakewide gillnetting operation was accomplished plus a purse seining operation in September. Limnological data was collected on a monthly basis for a continuing study of the effects of fire on the aquatic system. Repairs were made to the Clear Creek fish trap and cabin.

Yellowstone River - The annual monitoring of the spawning population at LeHardy's Rapids was accomplished. All the tributaries to the Yellowstone River above the falls and below the lake were surveyed. All the tributaries have thermal influence and none are used for spawning.

Four attempts were made to collect eggs from the lake trout in Lewis Lake. Only about 4,000 eggs were collected. The project was hampered by bad weather and the inability to catch ripe females. The project will continue next year with different sampling gear and hopefully better success.

A substantial amount of time was spent on assistance to independent researchers studying various aspects of the aquatic systems in the park. Eggs were collected from McBride Lake for Montana Department of Fish, Wildlife and Parks. Fish were collected from Sedge Creek and moved to the Teton Wilderness Area south of the park for the last year of a six year project with the Wyoming Game and Fish Commission.





Approximately 152,000 anglers spent 332,500 angler days angling in the park in 1982, and landed over 740,000 fish.

## 2. Wildlife Management:

- a. Elk: A late elk hunt was authorized by the Montana Fish and Game Commission in hunting district 313, north of Corwin Springs from mid-December 1982, to mid-February 1983. Special permits were used for 4-day periods in December; and 2-day periods in February, to allow redistribution of the animals three days weekly. In the late hunt, a total of 2,400 permits were available. As of mid-January, 520 animals were taken; one third of which were antlered bulls. Of the hunters actually participating, a success rate of about 90% was recorded.
- b. Bears: There were a total of 49 grizzly, 26 black and 27 unknown species of bear observations reported in developed areas during 1982. Backcountry observations reported totaled 395 grizzly, 542 black and 106 unknown species of bear.

There were no bear-caused injuries reported during the 1982 season.

There were a total of 18 confrontations; 10 by grizzlies, 4 by blacks and 4 by unknown species of bear.

Reported damages of the year totaled 50, for a loss of \$5,758. Fifteen damage cases were reported to be by grizzlies, 6 by black bears and 29 by unknown species of bear. The majority (approximately 85%) of the damages can probably be contributed to one problem bear.

There were four trappings and relocations of grizzly bears involving two different bears in the park. One of these bears was destroyed after being sent to Missoula, Montana, for a research project under Dr. Charles Jonkel, of the University of Montana. The other bear relocated during the 1982 season is alive and well and living in the Lake District.

A grizzly bear was relocated to British Columbia. This type of relocation was a first for Yellowstone. This bear and the bear sent to Missoula were removed from the population and considered as two management kills.

There were two known natural deaths of grizzly bears and one black bear in the park this year. Also, a grizzly bear was accidentally overdosed on a research trapping project at the head of the Gardner River, and a black



bear was found electrocuted near Tower Junction. The bear came into contact with a half buried transformer station that had been left open.

Park personnel in cooperation with the States of Montana, Wyoming and Idaho were involved in 11 relocations of grizzly bears into the park. One bear came from Idaho, one from Wyoming and nine from Montana.

The Antelope Creek drainage, east of the road from Tower Junction to Canyon Junction, remained closed for the 1982 season because of trapping activities and to provide undisturbed space for grizzlies.

During the 1982 season, 15 additional grizzly bears were collared. Nine of these bears were collared for research and six were collared after they had been handled for management purposes. There have been 96 different bears marked and radio collared by management and the IGBST since 1975.

There were 349 radio locations during the 1982 season.

Known mortality for the Greater Yellowstone Area is at 17 grizzly bears for 1982. The ecosystem lost three bears to natural causes, six to control (this includes bears relocated to British Columbia), seven by outfitters and hunters and one by a research accident. Six of these bears were female, nine were male and two of the sex was unknown. Of these, five were from Yellowstone; two were natural, two were management removals and one was a research accident.

- c. Bison: On February 2 a bison fell through the ice near Fishing Bridge. A group of snowmobilers noticed the bison attempting to get out of the water and complained about the lack of effort by the park to rescue the bison. Four members of the snowmobile party made futile attempts to pull the bison out of the water. The bison died that evening. The bison's struggle was filmed by an internationally known wildlife photographer. The incident generated a great deal of publicity from the comments of media personality, Paul Harvey, and the park received much criticism, inquiries and comments.

On several occasions late in the winter, small groups of bison left the park at the North and West Entrances. In each case it was necessary to herd the bison back into the park.

Interagency cooperation with the Montana Department of Fish, Wildlife and Parks has been excellent. An attempt



to place this animal on the game list for hunting was explored to more effectively deal with wandering bison. Several constituents expressed concern about added potential for cattle/bison contact resulting in transfer of Brucellosis. It has been decided to place bison hunting outside the park on hold until further details are worked out.

- d. Bighorn sheep: In the last months of 1981, the park's northern bighorn sheep herd was infected with chlamydia, a type of pink eye. The disease was the result of a naturally occurring bacteria in the environment originally infecting one or more animals, and passed rapidly to other members of the herd. Symptoms ranged from eye infection to blindness in about 180 of approximately 300 animals which were exposed. Some of the blind sheep presented safety hazards on roads or in the town of Gardiner and were destroyed. Others died from injuries or other factors as a direct or indirect result of the disease, for a total of 98 known dead. Approximately 130 of the infected bighorns fully recovered.

Disease-induced mortality among the larger rams led to expectations of a disrupted social structure and higher levels of social interactions between ewes and subordinate rams. Although another outbreak has not been detected in 1982 and is not expected in 1983, monitoring has continued. To facilitate this monitoring and for herd protection, the closure of the primary wintering area was announced by means of a press release dated October 6 and the closure became effective October 15. It will be lifted after the spring migration.

- e. Winter Mortalities: Numerous bison and elk mortalities were noted in the spring, with many of them near the roads and quite obvious to park visitors. (Several had skulls or horns removed by park rangers to thwart poaching, or for education and study purposes.)

Surveys conducted in the spring produced counts of 430 elk and 202 bison carcasses in the Old Faithful/Firehole River, Madison River, Gibbon River, Gardner River, Yellowstone River, Hellroaring Creek, and Lake areas, which reflects only a portion of the areas with possible mortalities.

This year's winter mortality was expected, considering the two mild winters of 1979-80 and 1980-81. Many of these mortalities should have occurred prior to the winter of 1981-82, but without the harshness of a normal winter the animals survived. The average winter mortalities over the past few years remain at normal levels.



The previous mild winters allowed higher populations of bison and elk to develop, therefore, the combined effects of a higher population and a normal winter (1981-82) was comparable to the effects of a more severe winter on a lower population.

The mortalities were not a result of starvation, but of a prolonged weakening - a lack of energy reserves, with most mortalities occurring during late winter and early spring. The animals died with full stomachs.

Forty percent of the mortalities were juveniles, which is the age group where a high percentage of winter mortalities may be expected within a dynamic wild animal population.

Grizzly and black bears were observed in the spring feeding on bison and elk carcasses. However, numerous other life forms also benefitted from the carrion, including magpies, eagles, coyotes, bluebirds, squirrels, insects, fish, hawks, rodents and bacteria.

### 3. Threats to Park Resources and Monitoring:

- a. Mining and mining-related activity: In 1982 activity was restricted to the Jardine and Grevice Mountain areas. The low gold price was probably responsible for the overall reduction in mining interest near the park, although the failure of ASTRA Minerals to acquire reclamation funding also contributed to their inactivity in Cooke City during 1982.

Homestake's operation in Jardine remained on "reserve status", with a single employee on duty at the mine office - Olin Hart, geologist. Activity consisted of completion of environmental baseline studies by WESTECH, Homestake's consulting firm; continued evaluation of drilling records; and diligent work. The park's visibility monitoring program was terminated in June after acquiring baseline data for one year. That monitoring was supported by Homestake and constituted an important baseline study in advance of possible renewed mining activity.

- b. Oil and Gas Leasing Activity: As in 1981, most activity was concentrated in the Gallatin National Forest and the Washakie Wilderness.

Leasing was completed on approximately 30,000 acres of Gallatin Forest lands near West Yellowstone, adjoining the boundary over a distance of 10.2 miles. Two of the leases lie within the Island Park Geothermal Area and on the Yellowstone Known Geothermal Resource Area (KGRA).





Stipulations on the leases are designed to protect resources on forest land.

According to Sherman Sollid, lease applications in the area north of Hebgen Dam are being withdrawn. Applications adjoining the park at the head of Tom Miner, Daly, and Tepee Creeks are still pending, but because they lie within a wilderness study area the Forest Service is not processing them at this time. Nearby applications in the Specimen Ridge area are being recommended for leasing.

The Washakie Wilderness oil and gas leasing final EIS was transmitted to the Forest Service Denver Office where at year's end it had not yet been released. According to Bud Riggs, the Shoshone National Forest has yet to release any information on the alternatives discussed in the final EIS.

- c. Geothermal leasing activity: We were notified that the Chief of the Forest Service denied an appeal by Christian F. Murer seeking to overturn the Regional Forester's decision on the Island Park Geothermal Area (IPGA) EIS and to revise the preferred alternative to permit leasing and geothermal development closer to Yellowstone. The decision sustained the Regional Forester's decision and adds "...consent to leasing shall be withheld at this time in those areas in the 'deferred' category, but the existing applications in such areas should be retained in a pending status until experience allows a decision for either leasing or denial."

We are not aware of any other significant action within the IPGA with the exception of oil and gas leasing in the Gallatin National Forest.

According to Sherman Sollid, geothermal lease applications in the Absaroka Beartooth Wilderness adjacent to the Corwin KGRA are still pending, but the Forest Service plans no action because of the wilderness issue and the opinion of John Sonderegger (a Montana Bureau of Mines geologist) that the area is closely tied to the Mammoth Hot Springs system.

The automated (Micrologger) monitoring system designed by Irving Friedman and Dan Norton, U.S. Geological Survey, that may eventually obtain baseline data for recognizing future adverse effects on the park's hot spring and geyser activity from geothermal development in the IPGA, continued into its second year of operation. During February and September, trips were made into the upper Boundary Creek ("Monitor Creek") acid-sulfate thermal



area to service and reprogram the first micrologger. In the fall a second weir and micrologger with improved stream gauge design, was added approximately five kilometers to the southeast in the near-neutral chloride hot water system at the source of Silver Scarf Falls. Each station provides data every 12 hours on hot spring source temperature, water depth and temperatures in the discharge channel at the weir, and conductivity.

- d. Water resources: Since the termination of stream and lake gauging in Yellowstone by the USGS Water Resources Division, monitoring has been continued at Bridge Bay by ranger personnel. The Lake outlet gauge is being read by Gary Durfey, Lake Winterkeeper, for Dr. Irving Friedman of the USGS.
- e. Air Quality: The National Atmospheric Deposition Program continued with collection and measurement of acid precipitation at Tower Ranger Station. Funding was not available for reestablishment of particulate monitoring. A one year visibility baseline monitoring program was completed in June, providing important data on visibility in the Mammoth Hot Springs area.
- f. Yellowstone Lake basin tipping and flooding: During 1982 it became apparent that tectonic uplift in the northeast end of the Yellowstone Caldera is elevating the outlet of Yellowstone Lake, producing higher lake levels in the South and Southeast Arms of the lake. This tipping and flooding is exactly what would be expected from the results of a releveling study by J.R. Pelton and R.B. Smith (1982, Contemporary vertical surface displacements in Yellowstone National Park, J. Geophys. Res. 87:B4).

Uplift with correspondingly higher lake levels has been confirmed by evaluation of the Bridge Bay lake level data by W.L. Hamilton. The rate of lake level rise is consistent with the 14-millimeter-per-year rate observed near Mud Volcano by Pelton and Smith (1982).

Evidence collected by William Romme and Kenneth Diem with respect to flooding of the Molly Islands and timbered shoreline in the South and Southeast Arms supports this observation. Diem thinks lake level may have risen by as much as 10 to 12 inches over the past decade in those areas. These observations are also corroborated by Robert Smith's interpretation of faulting north of Fishing Bridge and by Fisheries Assistance Office investigation of silting in the Yellowstone River between Fishing Bridge and LeHardy Rapids.



As a result, the Molly Islands pelican rookery produced only 28 young due to flooding in 1982. This degree of flooding has never before been observed. It has interrupted the nesting of caspian terns, gulls, and comorants resulting in a loss of approximately 150 nests on the Sandy Islands.

The University of Wyoming group has installed long term lake level monitoring stations in the South and Southeast Arms and at two points in the West Thumb and north shore area. Trees have also been marked in flooded areas for future analysis with respect to die-off. The Resources Management Office is preparing two automated lake level monitoring stations for deployment at Bridge Bay and in the Southeast Arm.

- g. Resource Management Plan: Yellowstone's first comprehensive draft natural resources management plan was completed in November. This document required the combined efforts of the Resources Management staff, the Bear, Fire and Forestry staff, the Research Office, field personnel and management.

The Resources Management Plan and Environmental Assessment listed 35 separate project statements covering the physical and biological resources in the park. Each project statement included a concise statement of the problem, a listing of alternative actions and their probable impacts and a recommended course of action.

The draft plan was sent to the Regional Office and to all federal and state agencies and major land owners adjacent to the park for their review prior to finalizing the plan. It is expected that this plan, which will be updated annually, will provide additional guidance and the necessary funding to manage and protect the park's diverse natural resources.

- h. Geochemical Monitoring: Monthly sampling, in cooperation with the U.S. Geological Survey, of Cistern Spring and Echinus Geyser by the Park Geologist has continued. The purpose of this research is to monitor changes in chloride concentration and temperature as possible precursors of seismic activity in the Norris Geyser Basin area.
- i. Seismic Activity and Monitoring: Due to severe budget cuts in the earthquake hazards program of the U.S. Geological Survey, only 2 of the previous 16 seismic stations in the Yellowstone area (Old Faithful and Mammoth) are still being operated. Four felt tremors were evaluated and reported in the park this past year.



Times, dates, locations, depths, and Richter magnitudes of major Yellowstone 1981 seismic activity have just been published in the U.S.G.S. Circular 871: Earthquakes in the United States, 1981. The Park Geologist determined Modified Mercalli Intensities of the events for each location felt in the park. Other published research: "Hydrothermal changes related to earthquake activity at Mud Volcano, Yellowstone National Park, Wyoming," Journal of Geophysical Research, vol. 87, no. B-4, pages 2762-2766, April 19, 1982, by A.M. Pitt and R.A. Hutchinson.

- j. Major geothermal activity and monitoring: Thermal activity continue to be monitored in the geyser basins, and was found to remain stable at the last two years levels in all aspects, exclusive of three major geysers: Steamboat at Norris, Morning at Lower Geyser Basin, and Giantess at Upper Geyser Basin.

Old Faithful Geyser - maintained its annual average interval at a historically high level. Based on 3,026 measured intervals, Old Faithful's average for 1982 was 70.770 minutes, with 79 as the mode, and 39 to 108 minutes as the extremes.

Steamboat Geyser - re-awakened as the world's tallest erupting thermal spring after 941 days of dormancy on January 13, 1982. The year ended with total of 23 major eruptions, with intervals ranging roughly from 4 to 42 days - the third most active year on record. Steamboat's spectacular displays attracted large crowds, but at the same time, caused concern from rocks ejected for great distances, toppled trees, heavy erosion across trails, and mineral deposits on cars in the visitor parking lot. Of additional importance, the geyser on several occasions discharged metallic sulfide deposits up to 10 cm in diameter.

Morning Geyser - rejuvenated in late January for about two weeks for the first winter eruptions in the park's recorded history. It was again active with powerful, literally earth-shaking fountain eruptions between June 16 and August 27.

Giantess Geyser - set a new record of 35 documented eruptions in one calendar year. It exhibited the first known minor eruptions in historic times and produced intervals ranging from 1-1/3 to 21 days. Normally less than three eruptions on the average occur each year.

New eruptive behavior - information was obtained on Artemesia, Depression, Steamboat, and Till Geysers





through the use of a portable seismograph (portacorder) on loan from S.W. Kieffer, U.S. Geological Survey.

- k. Geologic hazards: Sulfur Cauldron Overlook collapsed in the early morning hours of March 16, 1982. Cause of failure of the rock retaining wall was undermining of its base and deterioration of the internal grout from intense hydrothermal acid alteration. A contributing factor was lubrication of fill material behind the wall with snow melt and steam condensate. Fortunately there were no injuries. The Gardiner Canyon (McMinn Bench) earth slide has temporarily slowed its movement, but remains a serious threat to the North Entrance road.

#### F. Wilderness and Backcountry Management:

There were 21,529 people for a total of 49,400 visitor-use-nights using Yellowstone's backcountry overnight during the 1982 season. Compared to 1981, the number of people was down by 2,514, and the number of visitor-use-nights was down 5,660.

The percent of visitors to the park using the backcountry for overnight purposes was .9% in 1982, .9% in 1981, 1.2% in 1980, 1.3% in 1979, and .9% in 1978. The number of stock used in the backcountry during 1982 was 1,715, and the total number of stock-use-nights was 6,715. The number of stock was down 244 animals but the stock-use-nights were up 430 from 1981.

See graph on page 51.

#### G. Park Visitation:

The park was open for public travel on the traditional May 1 opening date; however, some of the areas were accessible as early as April 2. The Beartooth Highway was open June 4.

Road closures for the winter began October 6 when the Beartooth Highway and the operation of the Northeast Entrance were closed for the season. The East and South Entrances closed on November 7 and the West Entrance closed November 8. Interior road maintenance ended November 19. The road from Mammoth to the Northeast Entrance remained open to the public. The park officially opened for winter travel on December 17.

Annual park visitation totaled 2,404,862. This reflects a decrease of 144,445 persons or a drop of 5.6% compared to the 1981 season.

#### H. Lost and Found Summary:

The Visitor Services Office issued 2,549 found numbers to individual items located in the park. Of these, 153 were



claimed by the owner in the field, 494 were mailed to the owner and 59 were mailed to the finder. This represents an approximate 28% return rate. There were 132 pairs of eyeglasses donated to the Eyes for the Needy. Money released to Fiscal was \$292.64 and 100 Kroner.

#### I. Entrance and Golden Eagle Collections:

	GE	Daily	Total
Northeast	\$ 5,470.00	\$ 42,605.00	\$ 48,075.00
North	17,350.00	88,271.65	105,621.65
West	35,910.00	237,144.82	273,054.82
South	5,030.00	30,460.00	35,490.00
East	<u>29,280.00</u>	<u>174,335.25</u>	<u>203,616.25</u>
Total	\$93,040.00	\$572,816.72	\$665,857.72

#### Campground Collections:

Mammoth	\$ 59,396.29
Indian Creek	29,353.63
Tower	17,981.13
Slough Creek	15,034.43
Pebble Creek	11,590.47
Madison	195,893.37
Canyon	81,386.09
Norris	49,913.47
Otter Creek	1,132.00
Indian Pond	1,579.50
Lewis Lake	26,685.12
Grant Village	191,652.44
Fishing Bridge	95,289.82
Bridge Bay	<u>189,188.75</u>
Total	\$966,076.51

In addition to fees collected from single visit permits and Golden Eagle Passports, 9,040 Golden Age Passports were issued free of charge to persons 62 years of age or older. Additionally, 369 Golden Access Passports were issued to citizens or permanent residents of the United States who have been medically determined blind or permanently disabled.

Campground fees were collected in 14 campgrounds (12 regular and 2 group). The amount collected for the 1982 fiscal year totaled \$966,076.51, a 38% increase over the 1981 fiscal year collections.

#### J. Special Use and Park Supplier Permits:

The Visitor Services Office issued 24 Special Use Permits and 173 Park Supplier Permits in 1982.



# K. Central Communications Center Records Summary:

	<u>1980</u>	<u>1981</u>	<u>1982</u>
Employee Vehicle Registration	2,540	2,943	2,999
Visitor Identification Notices	319	351	414
Backcountry Permits Recorded	8,101	7,959	7,352
Number of People on Permits	24,010	24,143	21,529
Teletype Messages Sent on Law Enforcement Teletype System	5,247	5,772	6,350
NCIC Inquiries	4,481	5,325	5,858
Wrecker Requests	547	655	636
Law Enforcement Record Checks	7,611	9,292	12,363
All Points Bulletins	47	32	46
Field Investigation Cards Files	1,285	1,122	1,269
Information Packets Mailed	15,764	16,792	17,596

# L. Fire Management:

1. Structure Fire: A 32 hour Fire Command Course, "Structure Fire for Brigade Captains," was presented in the spring. In early summer 16 hour courses were presented at Mammoth, Lake, Grant Village, Canyon and Old Faithful for brigade members. A 14-lesson slide-tape package was purchased for use in biweekly brigade training in all areas.

Facility improvements continued with the installation of pumper connections on the Lake Hotel and the Old Faithful Inn. The Mammoth Motor Inn connection has been purchased but is not yet installed. Wallboard replacement has been completed in one dormitory in Mammoth and Lake and is in progress in nine other dormitories. The kitchen and staff-eteria at Lake are being remodeled and the Old Faithful Inn kitchen was completed. Alarm and sprinkler systems continue to be installed and rewired throughout the park and false alarms are a growing problem as defective installations and equipment are found.

Six minor fires occurred. Damage from fires totaled less than \$1,000 with no injuries or fatalities. A position was established for a permanent-part-time fire inspector.

2. Wildland Fires: A very slow season was experienced in Yellowstone as well as throughout the western states. A total of 20 fires were reported with 13 of these caused by lightning. Nine fires were allowed to burn as natural prescribed fires; however, due to frequent rainfall a total of less than one acre was burned by all 20 fires.

The Inter-regional Hotshot crew was assigned to only one fire outside the park and none within Yellowstone during the summer. The crew moved to northern California in late



summer and worked several prescribed fires and wildfires in September.

Assistance to other agencies consisted of the helicopter and fire fighters despatched to the Gallatin National Forest and overhead to the BLM Las Vegas, Nevada, District.

3. Helicopter Operations: An Alouette Twin Star AS-375E was contracted from June 15 through September 30. Due to a slow fire year the longest block of flight time totaling 35.8 hours was for search and rescue. Other uses within yellowstone and for others brought the total use to 90 hours of the 175 hour guarantee.
4. Search and Rescue: Within Yellowstone there were 26 search and rescue operations during the year involving 31 persons. Three missions were false alerts.

Six rescue operations were conducted outside the park as requested by outside agencies or individuals.

Lost Persons	- 20
Illness	- 4
Drowning	- 5
Accidents	- 8

See charts on pages 52 and 53.

#### M. Forestry Program:

1. Forestry Crew: The forestry crew consisted of three people this year. Approximately 1/4 of the crews' time was spent on fire related activities, particularly weather monitoring and record keeping.

The Supervisory Forestry Technician was certified as a Fire Behavior Officer. A fire weather station was installed and cataloged at Canyon Village and operated during the fire season.

The Forestry Office assisted in providing winter survival training to outside law enforcement agencies, and presented chain saw training to fire control aids and district personnel.

Jim Sweaney spent three months of the winter as a ranger at Old Faithful.

2. Exotic Weed Control: Consisted of one day's work mechanically grubbing spottedknap weed along the Gardner River.





3. Hazard Tree Removal: A major hazardous tree removal program was initiated in the Bridge Bay Campground as we attempt to bring the timber in our campgrounds under management.

The forestry crew and the bison IR crew removed the over-story from H Loop of Bridge Bay as the first step in this program. An agreement was made with the firewood concessioner to remove the wood. The dead and hazardous trees were removed from the Norris Campground and the Roosevelt Lodge area.

4. Backcountry Clean-up: A dump site in the Stevens Creek area was removed from the bank of the Yellowstone River.



VISITATION

		% of 76
1976	2,525,174	--
1977	2,487,084	-1.51
1978	2,623,141	3.88
1979	1,895,169	-24.95
1980	2,018,852	-20.05
1981	2,549,307	.96
1982	2,404,862	-4.76

PERSONNEL

		% of 76
1976	203	--
1977	191	-5.10
1978	200	-1.48
1979	185	-8.87
1980	158	-22.17
1981	160	-21.18
1982	182	-10.34

PART I OFFENSES

		% of 76
1976	270	--
1977	258	-4.44
1978	360	33.33
1979	280	3.70
1980	320	18.52
1981	351	30.00
1982	261	-3.33

PART II OFFENSES

		% of 76
1976	143	--
1977	163	13.99
1978	259	81.12
1979	294	105.59
1980	423	195.80
1981	973	580.42
1982	2,258	1,479.02

SERVICE INCIDENTS

		% of 76
1976	1,183	--
1977	1,324	11.92
1978	1,307	10.48
1979	1,096	-7.35
1980	1,305	10.31
1981	1,051	-11.16
1982	1,281	8.28

COURT CASES (those heard in YNP)

		% of 76
1976	50	--
1977	45	-10.00
1978	62	24.00
1979	70	40.00
1980	64	28.00
1981	106	112.00
1982	160	220.00

VIOLATION NOTICES

		% of 76
1976	549	--
1977	569	3.64
1978	1,237	125.32
1979	1,046	90.53
1980	1,028	87.25
1981	1,109	102.00
1982	1,360	147.72

WARNINGS

		% of 76
1976	2,472	--
1977	2,547	3.00
1978	2,807	13.55
1979	2,630	6.39
1980	2,173	-12.09
1981	1,887	-23.67
1982	3,451	39.60

TRAFFIC ACCIDENTS

		% of 76
1976	420	--
1977	423	.70
1978	500	19.05
1979	398	-7.40
1980	434	3.33
1981	499	18.81
1982	464	10.48

FATALITIES (accidental deaths)

		% of 76
1976	2	--
1977	5	150.00
1978	5	150.00
1979	3	50.00
1980	5	150.00
1981	7	250.00
1982	9	350.00



PERSONAL INJURIES

		% of 76
1976	349	--
1977	315	-9.74
1978	513	46.99
1979	414	18.63
1980	385	10.32
1981	461	32.09
1982	550	57.59

SEARCH AND RESCUE

		% of 76
1976	33	--
1977	15	-54.55
1978	41	24.20
1979	36	9.09
1980	45	36.36
1981	38	15.15
1982	48	45.45

PROPERTY LOSS \$

		% of 76
1976	380,450	--
1977	471,379	23.90
1978	620,383	63.07
1979	585,740	53.96
1980	683,113	79.55
1981	721,217	89.57
1982	1,012,557	166.15

CAR CLOUTS

		% of 76
1976	73	--
1981	215	194.52
1982	123	68.49

CASE INCIDENT REPORTS

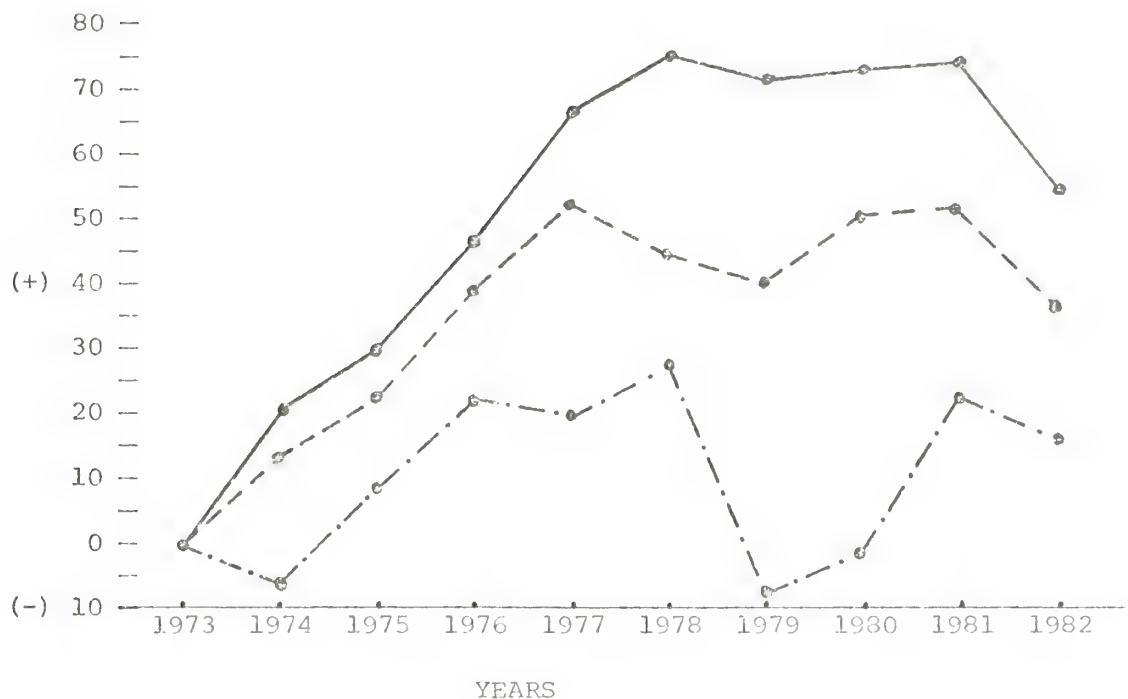
		% of 76
1976	1,832	--
1981	3,251	77.46
1982	3,307	80.51

PART I CRIMES

Nation (1979) 1 per 18.11 people  
Yellowstone (1981) 351 per 2,549,307 = 1 per 7,263 people  
(1982) 261 per 2,404,862 = 1 per 9,214 people



# PERCENT OF INCREASE IN BACKCOUNTRY USE



- Number of people in the backcountry (overnight)
- - - Visitor use nights in the backcountry
- . - . - Total number of visitors to the park





# SEARCH AND RESCUE OPERATIONS

## Yellowstone National Park

LAST NAME OF SUBJECT(S)	DATE OF INCIDENT	TYPE OF INCIDENT						NO. OF PERSONS RESCUED FROM STRANDED POSITION	NO. OF PERSONS INJURED	FATALITIES	METHOD OF EVACUATION				MAN HOURS			COSTS			
		LOST PERSON	AIR CRASH	ILLNESS	DROWNING	MISC. ACCIDENT	CLIMBING				OWN POWER	FOOT	ANIMAL	AIR	OTHER	NPS REG	NPS O.T.	NPS NON-NPS	PROGRAMMED (RANGER REGULAR TIME)	NOT PROGRAMMED (O.T., W.A.E., EQUIP., ETC.)	COSTS PAID BY OTHER AGENCIES OR PERSONS (EST.)
Boiling	2-13				1				1			X				48	8			575.00	
Havrilla skier	2-15					1			1					1*		12	6			145.00	
Pebble Creek	2-25	2						1				1		1		6	112	12	51.00	1075.00	
Shoshone Skier	5-23				1			1				1								200.00	
Beaverpond Trail	5-25				1			1				1				12		95.00	100.00		
Frank	5-30	1			1				1			1				2	50		400.00		
Cyn Stranded	6-02	1						1				1				2			100.00		
OF Summit Lake	6-07	2									2										
Fairy Falls	6-09	1									1								50.00		
Gardner River	6-27				1				1					X		195	45	1853.00	1567.00		
Slough Creek	7-07	2						2			2			**		8			50.00		
Pelican Valley	7-07					1		1						1		7		60.00	522.00		
Hellroaring	7-18	1			1				***			not final							19350.00		
Heart Lk Tr.	7-23			1				1						1		18	28	153.00	1006.00		
Electric Peak	7-30	3									3					8		60.00	1117.00		
outlet Yellowstone Rk.	8-07							1				1		1		6		51.00			1192.00

(SEE REVERSE FOR INSTRUCTIONS)

• Gardner and Tycol

• trailer boat

• 3000 lbs. Not recovered to date



## SEARCH AND RESCUE OPERATIONS

Yellowstone National Park

LAST NAME OF SUBJECT(S)	DATE OF INCIDENT	TYPE OF INCIDENT					NO. OF PERSONS RESCUED FROM STRANDED POSITION	NO. OF PERSONS INJURED	NO. OF FATALITIES	METHOD OF EVACUATION				MAN HOURS			COSTS			
		PERSON DOWN	AIR CRASH	ILLNESS	DROWNING	MISC. ACCIDENT	CLIMBING			OWN POWER	FOOT	ANIMAL	AIR	OTHER	NPS REG	NPS O.T.	NON NPS	PROGRAMMED (RANGER TIME)	NOT PROGRAMMED (O.T., W.A.E., EQUIP., ETC.)	COSTS PAID BY OTHER AGENCIES OR PERSONS (EST.)
Lamar River (it)	8-09		Record												2	0		17.00	697.00	
Upper Hill.	8-10					1		1				1			7			60.00		447.00
Promontory	8-11	4								4									100.00	
Indian Creek	8-11	1								1					10	30		310.00	1293.00	
Cache Creek	8-13				1			1				1			6	6		51.00	970.00	
Shelf Lake (it)	8-21	2								2					14	9		120.00	541.00	
E. Cooke City	8-22				5			5				3	2			37			370.00	2493.00
Grand Village	8-25			Stand by									7		2			17.00	595.00	
Tower Falls	8-27			1				1				1				2		17.00	521.00	
Thorofare	8-31					1		1				1			1			9.00	745.00	
Bear Creek (it)	9-01				1				1			1			120	30		1020.00	5037.00	
Wolverene (it)	9-22				1			1				1			4	10		35.00		555.00
Thorofare	9-25			1				1				1			3			25.00		1322.00
Canyon Village	9-27			1								1			6	0	6	51.00	745.00	
Pitchstone	12-8														6	2	3	111.00	600.00	

(SEE REVERSE FOR INSTRUCTIONS)

\* ambulance



## V. RESEARCH

### A. General

1. Bighorn Sheep: Blindness in a number of bighorn rams was first reported to park personnel December 13, 1981. Initial field surveys of sheep wintering in the Mt. Everts area indicated eye problems in both sexes and all age classes. Prevalence was initially highest in rams. Prevalence was less or nonexistent in bighorn sheep groups elsewhere on the northern winter range. Keratoconjunctivitis or pinkeye was suspected by consulting veterinarians when the condition as observed in the field was described. Necropsies conducted by the Montana Department of Livestock Diagnostic Laboratory at Bozeman, Montana, confirmed the condition; diagnostic procedures indicated the causative organism was Chlamydia sp. Mortality occurred directly because of accidents to blind animals and destruction of affected individuals which were helpless on a main road. Mortality occurred indirectly through impairment of foraging and sheltering ability. Individuals were observed in which affected eyes appeared to be healing naturally. Final known mortality from all causes was 98, as of July. In December the population of the Mt. Everts - Bear Creek unit was estimated at 71 animals, which represents a possible mortality of more than 50 percent. There were no infected animals observed during December. Dr. Mary Meagher's paper, "Outbreak of Pinkeye in Bighorn Sheep, Yellowstone National Park: A Preliminary Report," was presented at the Northern Wild Sheep and Goat Conference in March. A later comprehensive journal publication is planned in collaboration with associated veterinarians.
2. Northern Yellowstone Elk Herd: In January, an aerial survey was made of the northern Yellowstone elk herd. No count had been possible since 1978-79 because of mild winters with attendant poor counting conditions. This count, for 1981-82, was 16,019. The late winter hunt removed approximately 1,000 animals for a minimum late winter population figure of 15,000.
3. Bison: The actual parkwide bison count for the winter of 1982 was 1,937. The survey, made February 18, showed bison more widely scattered out on the several winter ranges than Dr. Meagher had seen previously over 10 years. An early winter count, usually lower than the February count, was considerably higher this year. This, combined with the scattered distribution, suggested a population at the upper end of an increase period and against the environmental resistance of the habitat. Conditions at the time of the February count also suggested appreciable winterkill could be expected. Later mortality surveys showed known winterkill of: Mary Mountain, 237 plus 28 stillbirths; Pelican,



86; Lamar, inconsequential. Dr. Meagher's estimate of the present population, pending the February 1983 air survey, is 2,000 animals.

4. Ross' Bentgrass: In early June, Dr. Despain, Robert Lichvar, Director of the Wyoming Heritage Program, and Jennifer Hutchinson (VIP), conducted a search for a rare grass, Aprostis rossii (Ross' bentgrass), which was previously believed to exist only on the cone of the Punchbowl in the Upper Geyser Basin. They found several more locations where the grass was growing. A Memorandum of Understanding with the U.S. Fish and Wildlife Service and a Management Plan for the species had previously been prepared and signed as an alternative to listing the grass as endangered or threatened. Dr. Despain and Mr. Lichvar also met with Dr. James L. Miller, staff botanist of the U.S. Fish and Wildlife Service, to discuss the status of the grass and the Memorandum of Understanding.
5. Collecting Permits: A total of 65 collecting permits were issued by the Research Office in 1982. The Research Office coordinated approximately 78 research projects which involved either conducting active research in the park or data collected in the park.
6. Conferences and Meetings: In February, Dr. Meagher attended the Yellowstone Area Managers Meeting on Grizzly Bears which was held in Billings, Montana.

In March, Dr. Don G. Despain attended the Interagency Soil Survey Conference for the state of Montana in Bozeman.

Also in March, Dr. Meagher attended a meeting of the Wolf Recovery Team in Missoula, Montana.

In June, Dr. Despain attended a Man and the Biosphere meeting, "Towards the Biosphere Reserve: Exploring Relationships Between Parks and Adjacent Lands; International Symposium, 1982," held in Kalispell, Montana. He was asked by the program chairman to chair a session as a substitute.

Also in June, Dr. Despain helped teach a course on Yellowstone's forest vegetation at the Yellowstone Institute.

In September, Dr. Despain attended a Scientist - Natural Resource Manager Meeting of the University of Wyoming - National Park Service Research Center in Moran, Wyoming.

Also in September, Dr. Meagher presented the position of the National Park Service on bison management at a meeting of the National Buffalo Association in Cody, Wyoming.





In October, Dr. Despain attended the joint Intermountain/Rocky Mountain Fire Council meeting in Jackson, Wyoming. He conducted field trips to one of our large natural fires and was asked by the program chairman to chair a session as a fill-in. He also contributed a paper, "Some Effects of Natural Fires in Yellowstone National Park."

B. Research Accomplished - Resulting in Major Publications:

Houston, D.B. The Northern Yellowstone Elk: Ecology and Management. Macmillan Publishing Co., Inc., 474pp, 1982.

The Superintendent's Annual Research Report indicates topically all known publications by non-Service researchers for the calendar year.

Theses Received:

Keating, Kimberly Alan. Population Ecology of the Rocky Mountain Bighorn Sheep in the Upper Yellowstone River Drainage, Montana/Wyoming. Master's Thesis, Montana State University, 1982.

Rudd, William J. Elk Migrations and Movements in Relation to Weather and Hunting in the Absaroka Mountains, Wyoming. Master's Thesis, University of Wyoming, 1982.



## VI. MAINTENANCE

### A. General:

The Maintenance Division's output was again dampened due to the unavailability of funds needed to pursue a general cyclic program in all facets of the division. To the extent possible, cyclic programs were pursued to keep the physical plant operating. The PRIP funds being expended are a great help in rebuilding a decent physical plant, but without the means to keep them up, we will only have to repeat the program in the future.

### B. Buildings:

The park's cyclic maintenance and repair/rehab projects have been held at a minimum this past year, resulting in the deferred maintenance of future projects. Major maintenance has been accomplished more on an emergency or a crisis basis than a planned program basis. Most of the cyclic-type projects accomplished resulted from turnover in quarters occupancy or deferred maintenance beyond the useful life.

As the park's operating base continues to erode due to inflation and the absorption of wage increases, we attempt to salvage operating funds by working on special money projects such as PRIP, energy retrofit, and other day labor projects until winter as we await for funding decisions. Projects are difficult to complete during the winter as seasonals are gone, use or lose annual leave is taken, or people are on furlough.

Projects completed were repairs and repainting of 16 residences and major repairs to 3 residences. The Ranger Division's offices were renovated, as were the rooms on the first floor Administration Building into an ADP center. The Maintenance Division's offices were also partially renovated. Additional work included completing health/life safety projects left from the previous year such as the completion of fire escapes at three dorms in Mammoth and troubleshooting fire detection systems in various concessioner dormitories throughout the park.

### C. Utilities:

As was the case with buildings, cyclic projects and major repair/rehabilitation were limited to emergency-type situations or day labor projects. Projects underway but not completed include a new boiler; supply and return lines and meters for Buildings 9, 10, 11, 12, and 13; a new well pump at Lewis Lake Campground and a lift station at the Norris Government area. Projects completed were a new heating system for apartment buildings 392 and 393, repairs to major water main leaks at



Norris and Mammoth, and completion of a new propane heating system at the Grant Village Shop.

D. PRIP:

Through the PRIP projects, the park is realizing repair/rehabilitation to major deficiencies in buildings and utilities. Approximately \$2.4 million were obligated during 1982. Approximately \$500,000 in additional PRIP funds were obligated for contract change orders on the health/life safety work inspected by Yellowstone National Park personnel. A status of each designated PRIP project is given below:

1. Increase Overflow Storage at Lift Stations - Day labor, 70% complete; installation of vaults remains to be completed at four locations. This project provides storage for sewage during power outages so that the deleterious material is not incorrectly disposed of.
2. Rewire Building No. 70 - \$48,000 contract presently underway, 80% complete. The contract was awarded in August and the work is well underway. A new service entrance and panels are being installed, all wiring and fixtures are being brought up to code, and emergency lighting is to be provided. Work is expected to be complete by April 1983.
3. Sewerline Rehabilitation at Canyon and Lake - Contract. Presently shut down for the winter, 50% complete. The results of this work are already being seen at Canyon, as the winter sewage flow has been dramatically reduced.
4. Install Vault Toilets - Contract presently underway. Contractor-subcontractor problems are delaying this project; 5% complete.
5. Rewire Historic Structures - Day labor, 98% complete. The project provides for the rewiring of structures built around the turn of the century in order to bring them up to code.
6. Rewire Canyon and Old Faithful Trailer Courts - Day labor, 100% complete. The trailer courts now have sufficient electrical load capacity to accommodate modern trailers.
7. Install Generators at Two Lift Stations (Grant Village and Fishing Bridge) - Day labor. Generators were purchased but did not arrive until late October. One will be installed at Fishing Bridge this summer; the other will be installed at Grant Village in 1983 as a portion of a line item construction contract. This will provide power at large lift stations that will allow pumping of sewage during power outages so that it is not deposited in nearby watercourses.



8. Install Four Garbage Equipment Cleaning Stations - Day labor, 100% complete. Due to the potential bear problems that occur in Yellowstone, the immediate cleaning and disposal of residue from garbage equipment will help reduce the possibility of human/bear confrontations.
9. Construct Comfort Station and Sewage Disposal System, Norris - Day labor, 100% complete. The old comfort station and leach field were precariously close to a fragile thermal area. The new facilities will relieve the pressure and provide handicapped access to a comfort station in the Norris area.
10. Replace Docks D and E, Bridge Bay Marina - Contract, fabrication of docks presently underway. Docks to be installed in 1983 as a portion of a line item construction project. The existing docks were beginning to break up with a resultant deposition of flotation material into Lake Yellowstone.
11. South Entrance Road - The Federal Highway Administration (FHWA) designed and contracted extensive drainage and surfacing work along the park's South Entrance road and along about seven miles of the J.D. Rockefeller Parkway. Within Yellowstone National Park, the work consists of installing approximately 35,200 lineal feet of 4-inch PVC underdrain and approximately 3 miles of shoulder widening for a value of about \$0.8 million. All underdrain work is nearly complete and shoulder widening work is about half complete.

This rehabilitation work, originally scheduled within Yellowstone for base structural repairs and pavement overlay at an estimated cost of \$2.86 million, was cut to its present level of \$0.8 million. Completion of the project as originally planned within the next few years is crucial to prevent large-scale adverse effects due to normal traffic and moisture conditions along the South Entrance road. Efforts to secure this funding are continuing.

12. East Entrance Guardrail - All guardrail along the park's East Entrance road is being repaired or replaced under a \$129,433 contract with Western Sign Corporation, Great Falls, Montana. This contract is presently 64% complete. All project design and administration is being handled by the park staff. Project work includes placing 2,040 cubic yards of shoulder fill (to widen road shoulders in the vicinity of selected guardrail sections), replacing all existing wood guardrail with 2,960 lineal feet of pressure-treated, wood guardrail, replacing existing metal guardrail at the Cub Creek curve with 370 lineal feet of weathering-steel, metal guardrail, repairing all existing cable





guardrail (15,200 lineal feet) and repairing all masonry guardrail (2,430 lineal feet) by placing 36 cubic yards of new masonry.

13. Lone Star Bridge - The Firehole River Bridge along the park's Lone Star road/trail is being replaced under a \$49,272 contract with Clark Brothers Construction, Idaho Falls, Idaho. This contract is presently 69% complete. All project design and administration is also being handled by the park staff. This project consists of construction of a new, prestressed-concrete bridge adjacent to the existing reinforced-concrete bridge and subsequent demolition and removal of the existing bridge. Gravel approaches will connect the new bridge to the existing road. Currently, the new bridge is in place and the gravel approaches have been roughed in. Completion of the new bridge and approaches is expected in June 1983, and demolition of the existing bridge soon thereafter.

Projects that are not completed are due to limited construction season, pulling crews off of a project for emergency work, and poor scheduling. Funds that could not be obligated due to this were returned to Regional reserves to assure obligation at the Regional level.

In the final analysis, the park obligated 135% of its original allocation to assure that the Region met its obligation goals.

#### E. Roads and Front-Country Trails - ONPS Funded:

NPS crews continued on major rehabilitation work along the Grand Loop road from Canyon to Fishing Bridge Junctions. This year's main project started about 500 feet south of Canyon Junction and continued for 4 miles to Hayden Valley, connecting to previous road rehabilitation work completed in 1981. The Lake government and visitor use roads (2 miles), a portion of the Madison Campground, and all of the utility area (1 mile), 1.5 miles of road south of Mammoth, and the Norris Museum and maintenance area roads (1.5 miles) were overlaid with a combination of ONPS and day labor funds.

A handicapped access trail to the Artist Point overlook was approximately 85% complete by year's end, although most of the trail was accessible to the handicapped by July of 1982. Twenty thousand cubic yards of hot and cold asphalt were produced for use in half-soling and district road maintenance.

New walks were constructed from the new concession lodging units at Grant Village to the restaurant located at the marina. All walks and porch pads were constructed at the employees' dorms built in 1978 at Lake and Old Faithful. The above projects were funded out of day labor projects. Reconstruction of boardwalks



in the Mammoth area were begun as a part of the 1983 PRIP projects in the fall of 1982.

Rehabilitation work consisted of flushing and cleaning all drainage systems (culverts, underdrains and ditches), repairing asphalt gutter, installing approximately 1,600 feet of 6-inch CMP underdrain, repairing numerous 'soft' areas in the road, raising six manhole and eight water valve covers located in the road, paving several pullouts, correcting an overload problem due to excessive pavement on the Otter Creek bridge and placing a 2-inch, hot-mix asphalt overlay over the entire section plus about 1,500 feet along the Artist Point access.

Centerline striping on about 20 miles of park road was completed under contract to Frank Gurney, Inc., of Spokane, Washington. Also completed under contract to Bozeman Sand and Gravel, Bozeman, Montana, was the crushing and hauling to the Norris Pit of 1,620 cubic yards aggregate and the crushing and stockpiling at Gardiner and West Yellowstone of 9,575 cubic yards of aggregate. Contract completion is expected in the summer of 1983 as about 6,000 cubic yards of aggregate is to be delivered to the Norris pit.

Spring opening of roads was extremely difficult and expensive this year due to high snowfalls during the months of March, April, and May. The density of the snow was extremely high which, combined with the new snow, caused numerous breakdowns and an eventual expenditure of approximately \$125,000 in parts. The total opening costs, including amortization, were approximately \$325,000. The West Entrance was opened to Mammoth and Old Faithful on April 2, although spring storms caused it to be closed intermittently into May. The road was officially closed on November 8 due to poor conditions. The East Entrance opened on May 1 and the South Entrance opened on May 3. Both roads were closed to travel on November 7. The Beartooth Highway opened on May 31 and was impassable for traffic on October 5. Attempts were made to keep the road open until the traditional closing date of October 15, but heavy snow and wind made reopening impossible.

#### F. Energy Conservation:

The extensive retrofitting of park buildings begun last year, continued in 1982. Two more residences were fitted with aluminum storm windows and doors which essentially completed that phase of the conservation program. Also, the construction and installation of wooden combination storms on historic buildings is progressing well. An additional step in the weatherproofing of major fuel users was the installation of acrylic "insider" storms on the Mammoth Vehicle Repair Garage and the Madison Shop. The Mammoth Garage, a high-roofed



structure, has also been equipped with recirculating ceiling fans.

A \$23,000 contract to provide a solar domestic water heating system for Building 70, the Mammoth apartment house, has been completed. Full operation of the system will commence in early 1983, when the new electric back-up heaters will be in place, and annual savings of 3,500 gallons of fuel oil will start to be realized. The building, which contains 20 apartments plus garages and utility space, has consistently been one of the park's heaviest users of fuel oil.

Six buildings in the park were reroofed with 3.5 inches of polyurethane foam covered with interlocking steel panels. The contract for \$96,000 covered three single residences at Grant Village, Lake, and Canyon, plus three more multiple housing units at Lake and Canyon. With the exception of one single residence (801) at Canyon, the roofs are performing as intended. The roof on Building 801 will be repaired by the contractor as a warranty item in 1983.

Consumption of the five different fuel types in FY 82 was about the same as last year's except for vehicle-diesel which was up 29% because of stepped up "hot mix" production for essential road repairs. Electricity use was down 3%; propane gallonage use was up 4%; and gasoline for vehicles was down a percent. Because of the colder winter, fuel oil use rose slightly from last year's level; however, its trend is still steeply down from the base year of 1975. The 204,000 gallons burned are only 52% of 1975's use and represents a cost avoidance of \$210,000 in the year compared to the base level.

#### G. Health/Life Safety:

The FY 81 projects that were completed included the punch list items on the fire escapes on three dorms at Mammoth and trouble-shooting of various fire detection systems in concession dormitories throughout the park. These were turned over to the concessioner during the summer of 1982 and are a part of their maintenance responsibility.

Four major projects were accomplished this year using Yellowstone National Park personnel as project supervisors and inspectors. The projects' designs were accomplished by Denver Service Center personnel. All projects concerned concession operated facilities as follows:

1. Rehabilitate Rooms, Lake Hotel: Removed fiberboard wall and ceiling surfaces and applied fire-rated gypsum board; removed and replaced existing guest room doors with fire-rated doors; closed transoms; rewired the entire east wing to comply with the National Electrical Code. The work began



in late October 1981, and ended in May 1982, at a cost of \$399,000.

2. Rehabilitate Rooms, Old Faithful Inn and Snowlodge: Removed fiberboard wall and ceiling surfaces and applied fire-rated gypsum board in the entire new west wing to comply with the National Electrical Code; replaced plywood and masonite paneling in the second floor corridor of Snowlodge with fire-rated gypsum board, and replaced all guest room doors with fire-rated doors. The work began in late September 1981, and ended in April 1982, at a cost of \$636,000.
3. Install Sprinkler System - Concession Buildings, Mammoth and Old Faithful: Installed dry-pipe fire protection sprinkler systems in the Juniper Dormitory and restaurant/dorm (Terrace) at Mammoth and in the Old Faithful Lodge and Recreation Hall. The work began in late September 1981, and was completed in mid-May 1982, at a cost of \$357,000.
4. Rehabilitate Kitchen, Old Faithful Inn: The work included demolition of the existing kitchen space and the total rehabilitation and remodeling, including new service equipment, utilities, floor, wall, and ceiling surfaces, cooler and mechanical systems, and complete rewiring to comply with the National Electrical Code. The work began in mid-October 1981, and was completed in May 1982, at a cost of \$1,982,000.

#### H. Denver Service Center Projects:

Two visitor lodging units at Grant Village that were started in 1981 were completed and opened for public use on July 1, 1982. The utility and parking contract associated with the motel units was completed in the fall of 1982.

Water treatment plants were finalized at Grant Village and Old Faithful, although substantial punch list items remain to be finished in 1983.

Twelve new construction contracts totaling approximately \$8.5 million were awarded in 1982 and are presently underway as follows:

#### Mammoth:

1. Sliplining of the water treatment plant supply line was started in June of 1982 and was virtually complete by year's end.
2. The construction of three new water supply diversion structures on the Gardner River and Panther and Indian





Creeks were started in the summer of 1982 and are still in progress.

3. A lawn sprinkler system in the Mammoth area was some 60% complete by year's end and should be completed during the summer of 1983 with an expected decrease in water usage in this area as a result.
4. Emergency repairs to the Mammoth Motor Inn were started in the fall of 1982 and will be completed for the 1983 summer season.

#### Old Faithful:

1. Rehabilitation of the Old Faithful Inn continued. This project includes reshingling the wings, log replacement on the building, and miscellaneous improvements. Construction is scheduled for completion in 1983.
2. Emergency repairs to the interior of the Old Faithful Inn are taking place during the 1982-83 winter season in order to be ready for the 1983 summer season.

#### Lake:

1. A total rehabilitation of the Lake Hotel kitchen is being accomplished during the winter so that the facility is ready for the 1983 summer season.
2. The structural system of the Lake Hotel will be complete in late 1983.
3. The Bridge Bay Marina electrical system upgrading was started in the fall of 1982, and will be completed for the 1983 fishing season on Lake Yellowstone. Two new docks, purchased as a part of the park's FY 82 PRIP projects, are being installed as a part of this contract.

#### Canyon:

1. The final phase of the Canyon water system is underway with the construction of additional distribution lines, storage and a complete water treatment plant. This project totals over \$2 million and is scheduled to be completed for the 1984 summer season.

#### Park General:

1. Eighteen LP gas systems are being rehabilitated in various concession areas throughout the park.



2. Ten employee dormitories used by concessioners are being rehabilitated during the winter in order to bring them into compliance with the applicable fire codes in time for the 1983 summer season.

At the height of the construction season, approximately 30 DSC construction employees were working in the park - a level of effort that should continue throughout 1983 and into 1984.

## I. Telecommunications Services:

Radio System Upgrade: Approximately \$440,000 of PRIP funds were expended for new radio equipment this year. This major effort to upgrade the radio system is intended to address two major problem areas. First, to replace all of the old obsolete equipment and second, to resolve the inadequacies of poor coverage and excessive radio traffic by implementing a second system and the use of additional channels.

Much of the new equipment was purchased via the US Forest Service contract at significant savings (as much as 30% over USA sources in some cases). These savings made it possible to purchase all of the required equipment. About half of the new equipment has been delivered and the balance is expected by early spring.

Installation and activation of the equipment/new system is planned for spring and summer of 1983, subject to filling two journeymen electronics mechanic positions. These positions are hard to fill due to the shortage of this type of help during the electronic revolution. The installation of the new equipment includes the installation of three remote mountain-top fixed sites, one fixed site at Mammoth, the completion of the Communications Center, the installation of 106 new mobile units, the exchange of the portable equipment and acceptance testing and property marking of all equipment.

Alarm Systems - A significant portion of the planned fire/intrusion alarm communicators is now in place. The parkwide alarm system now monitors about 39 locations for fire or intrusion conditions (largely concessions facilities) and 6 major water treatment facilities. Many of these were completed during 1982.

Plans for additional locations include four more water treatment systems and some concessions facilities at Grant Village.

The major weakness of the system is its dependence on the Mammoth PEX system which does not operate during commercial power outages.



The unsuccessful/unreliable "Plectron" alarm system (purchased in 1976 and never fully implemented) has been removed from service entirely. Most of the nine stations which were completed can be converted to the parkwide automatic telephone dialing alarm system. Conversions will be made on a low priority basis as manpower and funds are available.

Travelers Information System: The park has about 25 TIS transmitter sites. This past fall, Department of Energy funds were made available for a contract to convert four sites from propane thermoelectric power to solar power. All remote sites are now solar powered.

Major problems still exist with the reliability of the audio tape deck equipment used with these systems.

Computer System Support: A project to install a cabling system to interconnect computer terminals and peripheral equipment throughout the Mammoth office complex was initiated this fall and is approximately 50% complete.

Old Faithful Geyser Basin Telemetry System: A project to evaluate the feasibility of a low cost telemetry system for scientific monitoring of five of the geysers was initiated last summer. Results to-date are favorable. Completion of the study and the development of a basic system design are scheduled for mid-1983.

#### J. Backcountry Trails:

Backcountry trail work was cut back due to the lack of operating funds. The one crew that was funded, worked on 11 heavy construction projects during 1982 in various areas of the park as outlined below:

1. Specimen Ridge Trail - Constructed new trailhead and installed water bars of rock and log. Installed new trail markers.
2. Yellowstone River Trail - 5.5 miles from Gardiner, camped at Crevice Creek. Cleaned water bars, cut drains and rushed on Blacktail Trail while going into worksite. Constructed 60 feet of regrade with switchbacks; used explosives and gas hammer to break rock. Hauled 150 cubic yards of fill to resurface the trail on rock side slope.
3. Broad Creek Trail - Camped at Fern Lake cabin. A reroute was constructed around a large bog hole; 1,440 feet. Fill was hauled and the work done with hand tools. Eight hundred and twenty more feet were constructed on a side hill to reduce drainage problems and future maintenance.



4. West End of Shoshone Lake Geyser Basin - Bypass trail, four bridges were replaced over bog holes. Also, 3,400 feet of trail was rerouted out of a drainage to a side hill. Results were to improve the grade and reduce maintenance required on the old trail. It also opened up the area for a better view. Camp located on Shoshone Creek, .5 miles from Bechler trail junction.
5. Snake River Canyon Trail - Camped one mile upriver from Heart Lake Trail junction. Constructed several reroutes; 200 feet, 2,040 feet and 3,600 feet. The trail was moved from a wet, badly eroded area, to higher ground and onto a side hill to help drainage and eliminate several unnecessary fords on the Snake River. Also, a reroute was started at the 5.5 mile marker which will eliminate an additional two fords. The route is 50% complete and should be finished next year. It will move the trail to higher ground and open the canyon for a much better view.
6. Lamar River Trail - Camped at Cold Creek cabin. Repaired trails where washed out by spring flood. The trail was moved up the bank, which required much hand work side-hilling. Reroute lengths were 1,200 feet, 300 feet, 400 feet, and 260 feet. Also, 67 feet of bridging over a bog hole and six french drains were installed on the Mist Creek Trail.
7. Lynx Creek Trail - Camped at the confluence of Lynx Creek and Yellowstone River confluence. Grade work, filling and installing waterbars. Rerouted marked areas for upper Lynx Creek to eliminate unnecessary fords and drainage problems. A 64 foot bog bridge was constructed and the dangerous old bridge removed. Salvaged nails were stored at Thorofare Ranger Station. Also raised trail, logs, and gravel through spring area and constructed drains and ditches. Much more work is required on this trail.
8. Bechler Canyon Trail - Two miles above falls. Camped one mile up from Greg Fork. Installed 76 water bars, brushed rocks, regraded and filled eroded parts. Cleaned water bars and brushed down to Colonade Falls. Much more work needs to be done on this trail, both above and below Three Rivers junction.
9. Camped at Pelican Springs Cabin - Skidded old logs from bridge site into woods out of sight.
10. Canyon Day Trails - Worked with a team of workhorses borrowed from TWA, on the concessions trail using the tail plow, slip and trail grader. The weather was bad so things went very slowly.





11. Old Faithful Area - Spring Creek ski trail constructed a 60 foot bridge across the Firehole River.

K. Operations:

As with other facets of the division, the operations portion was hindered by the lack of sufficient cyclic funds. This was compounded by a hard spring opening and the rebuilding of old snowmobiles in order to get another year's service out of them. Excess funds from the Regional PRIP Program did help with 5 machines, but it still left over 20 to rebuild. The hot mix plant and new paving machine worked well in 1982 and accounted in part in an increase for the efficiency of the Special Projects road crews.

Building 802 at Canyon was renovated from a dorm into seasonal quarters. All of the units are efficiency apartments with cabinets, sinks, stoves, refrigerators, and new floors. The plumbing was winterized and the electrical service was upgraded. For improved winter operations, a comfort station vault was installed next to the information trailer and 2,000 gallons of fuel capacity was added. This should solve the late spring fuel problem when there is no regular gasoline available.

The barracks at Lake (Building 269) was partially rehabilitated so that the eight rooms, two kitchens, and community bathroom can be ready for the 1983 season. In addition, bathrooms in six transit homes were remodeled and replumbed. The ceilings in Buildings 707 and 269 were insulated. Gull Point Drive was stabilized late in the fall of 1982 to correct the failure of the retaining wall. Without this effort, the road would have been washed out during 1983's spring breakup. Winter operations at Lake were upgraded with the addition of 1,000 gallons of fuel storage and the final installation of the 300 kw standby generator by Montana Power Company.

The Explorer Museum at Madison was reroofed and the rotten logs were replaced or stabilized by a contract to a historical restoration firm. This type of work is quite a new concept and the results were extremely good - both structurally and in appearance.



## VII. SUPERINTENDENT'S OFFICE

### A. General:

Yellowstone was deeply affected in 1982 by the extended battle with cancer and eventual death of Superintendent John Townsley. Mr. Townsley passed away on September 19, 1982 in St. Vincent's Hospital in Billings, Montana. An outdoor memorial service was held on September 23 adjacent to the flagpole in Mammoth. The service was conducted by Reverend Warren Ost of A Christian Ministry in the National Parks. National Park Service Director Russell Dickenson and several Regional Directors were on-hand for the ceremony as well. The crowd of nearly 300 included past and present NPS employees, long time personal and park friends, and representatives from various agencies and communities. While he could not be present, Mr. Townsley's life-long friend, Horace Albright, sent a message to be read in his behalf.

Assistant Superintendent Ben Clary served as Acting Superintendent periodically during Mr. Townsley's illness and absences. Deputy Director Jim Thompson was appointed as Acting Superintendent from September 19 to December 8. The Appointment of Robert D. Barbee as Yellowstone's new superintendent was announced on December 15, to become effective January 9, 1983.

### B. Public Information Office:

1. Personnel: Employees directly associated with the Public Information Office included: a GS-11 Management Assistant a GS-4 Public Affairs Clerk, a GS-3 Seasonal Park Aid, and a GS-11 Park Photographer.

From June through mid-September, the Public Information Office co-sponsored a young Norwegian woman, Merethe Giske, as a volunteer student intern, along with TWA Services. Ms. Giske worked in the Yellowstone Lake area and was occasionally called upon by this office to assist with foreign visitors. Ms. Giske spoke Norwegian, Swedish, Danish, French, German and English fluently. She received no pay as a volunteer but was given meals and lodging by TWA Services.

2. General Information Services: The Public Information Office serves as a clearing house of information for the park and local communities and responded daily to written, telephone and walk-in requests for assistance and information.

A wide range of correspondence, often requiring detailed answers, numbered more than 1,000 pieces. More than 25% of this correspondence was from foreign countries.



The Public Information Office worked closely with the Regional and Washington Public Affairs Offices, keeping them informed on a variety of matters and seeking advice on sensitive issues. Major issues facing Yellowstone included grizzly bear management, bison drowning, bighorn sheep situation and subsequent McMinn Bench closure, Grant Village, and poaching.

The Public Information Office assisted in researching and preparing a wide variety of briefing papers and fact sheets for the Regional and Washington offices and the park in general. Frequent assistance was given to the International Affairs Office in Washington with foreign language requests for park information. We also programmed the visits of foreign dignitaries and foreign park managers while they were here in Yellowstone.

3. Press Releases: There were 38 press releases issued in 1982.
4. Media Relations: Yellowstone continues to be a focal point for local/regional/national media. On the average, in a routine week, we respond to 20-30 media inquiries. 1982 was a busy media year. In addition to these regular contacts, following is an example of major news media visits:

KNXT, the CBS affiliate in Los Angeles, visited the park to film a segment for their "Two on the Town" program. Shad Northshield with CBS in New York was also in the park to discuss the filming of grizzly bears for a special program they are producing.

Charlie Claffey of the Boston Globe, Bill Schmidt of the New York Times, Dick Woodbury of Time Magazine, Tom McNamee of Audubon Magazine, Tom McNeill of National Geographic Magazine, David Salisbury of the Christian Science Monitor, Gary Blonston of the Detroit Free Press, Mike Satchell with Parade Magazine and Bob Saille of the Denver Post were all in the park in 1982 gathering information for various articles.

Deborah Grant of Stacy Klein Associates was here with a crew from FM Tokyo, a Japanese television news crew. D.L. Wigmore of the Canadian Broadcasting Company came in with a crew to film general wildlife shots and to shoot footage of renowned Canadian wildlife artist, Robert Bateman, for a television special. Stephania Cassinni and a crew from RAI television, an Italian broadcasting company were here to film a day in the life of a Yellowstone ranger - Dave Spirtes was chosen for the role.



Steve Hart of WBEZ - Chicago interviewed Joan Anzelmo for a National Public Radio children's program - Audio Jam. The main focus of the 10-minute interview was on wildlife.

Mary Ann Ilaw, a writer for Girl Scout Leader magazine, interviewed Barbara Pflaum, a woman ranger, about her job in Yellowstone.

The World Press Institute, a private, non-profit educational organization, ensures that international opinion about the United States is shaped by journalists writing from a comprehensive personal background of experience. This is achieved by selecting outstanding young foreign journalists for a seven month program of work, study and travel. Twelve journalists visited Yellowstone on July 12 and 13 and met with Joan Anzelmo. They were given press kits and organizational charts and toured the park on their own on the 13th.

In addition, our contacts over the course of the year also included the following notable publications: National Geographic Society, Smithsonian, Audubon Magazine, Time-Life Books, Natural History Magazine, Backpacker, National Parks and Conservation, the Philadelphia Inquirer, Wall Street Journal, Time Magazine, Newsweek Magazine, People, Sports Illustrated, Sports Afield, Businessweek, Miami Herald, San Francisco Chronicle, Los Angeles Times, Washington Post, Snowgoer Magazine, and Ranger Rick Magazine.

5. Official Visitors: Throughout the year, the Public Information Office assisted with programs and arrangements for United States and foreign government dignitaries, park officials and other special guests.

Congressman Ralph Regula (R-OH) and Stan Hulett, special advisor to the Secretary of the Interior, snowmobiled through the park in February. They were briefed on the park's winter operation and viewed construction activities in the Lake area. The families of Senators Strom Thurmond and Alan Simpson visited the park in July and December respectively.

The Public Information Office also coordinated arrangements for many official foreign visitors to Yellowstone. The programs of official foreign visitors were arranged in cooperation with many other offices and agencies, but primarily with the International Affairs Branch of the National Park Service.

Foreign visitors came from as far away as the Salisbury College of Advanced Education in South Australia, the Joshynetsu National Park in Japan, Ngorongoro Crater in Tanzania and the Institute for the Conservation of Nature in





Zaire. We assisted a district commissioner from Israel, two park administrators from Gatineau National Park in Canada, a Churchill fellow from Australia and a member of the British Parliament during their stays in the park.

As part of an exchange program between the state of Montana and Japan, Governor Ted Schwinden hosted a group of 32 Japanese businessmen on a trip to Yellowstone.

A Rotary International sponsored group of 250 international students traveled through the park this summer.

#### OFFICIAL FOREIGN VISITORS

Japan	4	Dominican Republic	1
Australia	4	Saudi Arabia	5
Finland	7	Zaire	1
Israel	1	France	1
Canada	2	England	1
Tanzania	3	Yugoslavia	1
		Total	68

6. Filming Permits: We provided orientation information to all commercial filers and photographers, assuring compliance with park regulations. Some of the major companies included: National Geographic Society, Outdoor Life Magazine, Tokyo Broadcasting System, FM Tokyo, British Broadcasting Corporation, Pantechnicon Corporation for the Public Broadcasting System, KUTV in Salt Lake City, Utah, Pacific Northwest Films, and Cine-Top Film and Video Production of Germany. A large number of permits were issued to individuals working on a free-lance basis.
7. Meetings and Conferences: On April 2, the National Park Service co-sponsored a press conference with TWA Services, Inc. The conference took place in Mammoth with Superintendent John Townsley and Hal Ritchie, executive vice president for TWA, addressing the media. The media was then escorted to Old Faithful for a look at the ongoing construction work on the Old Faithful Inn kitchen.

The Public Information Office was very involved with arrangements for the Tri-State Travel Forum held in West Yellowstone, Montana, on May 14 and 15. Both Director Dickenson and Rocky Mountain Regional Director Mintzmyer attended the meeting and spoke to the group. Superintendent Townsley and Joan Anzelmo also attended the meeting.

The National Park Foundation board met in Yellowstone September 10 through 12. A small number of board members arrived early to participate in a special Yellowstone Institute session on September 8 and 9.



Joan Anzelmo attended the annual DATO Travel Pow Wow in Las Vegas, September 12 through 14, representing the National Park Service at the request of the Director's Office.

On September 16, Joan Anzelmo instructed a training session at Albright Training Center, entitled, "The Role of Public Information for Natural Resource Managers."

8. Special Events: On May 9 and 10, various National Park Service employees attended special functions in Cody held in appreciation of the National Park Service. Joan Anzelmo coordinated arrangements for the function and attended as well.

On May 13, a special luncheon was held at the Old Faithful Inn to recognize the contributions of many people who have helped throughout the various stages of rehabilitation. The special guests included Director Dickenson, Rocky Mountain Regional Director Mintzmyer, Denver Service Center staff, construction firm representatives and TWA Services managers and staff. The Public Information Office handled the arrangements for this function.

9. Photo/Slide Requests: The Public Information Office answered over 150 requests for loans for a variety of slides and photographs on Yellowstone subjects.

The Photography Shop, attached to the Public Information Office, handled a great deal of specialized photographic work for different divisions. Special projects included field trips to photograph concession facilities rehabilitation work, the Regional Interpreter's Conference, accident scenes, an elk poaching incident, and the Lone Star Bridge before demolition. In total, 1,544 black and white prints, 956 color prints, and 1,777 slides were produced. Other work included the printing of approximately 2,385 historic glass plates, which were then copied onto 4x5 film and filed with subject index cards.

10. Publication Editing Requests: The Public Information Office responded to more than 50 requests for editing publications concerning Yellowstone, and numerous other phone requests for the same. These requests were often complex, requiring extensive research on the part of the staff to supply accurate information.
11. Special Projects: The Public Information Office updated the reference volume on the Greater Yellowstone Area. This book was made available to various locations throughout the park to enable employees to assist visitors with questions regarding Yellowstone Park, the surrounding forests and gateway communities.



Yellowstone was selected as a pilot park to use the Foreign Language Handbook.

### C. Data Processing

1. Introduction: A special Data Processing Committee was appointed by Acting Assistant Superintendent Mac Berg for the purpose of designing a Master Plan for Data Processing in Yellowstone National Park. The responsibilities of the committee included the choice of equipment to be ordered and details concerning staffing.

The Master Plan was set up in three phases. The equipment for the first phase of the program was delivered to the park in October, 1981, and installed in November. At this time a computer specialist was hired to direct the program and the ADP committee was disbanded.

Data Processing became a new section of the Superintendent's Office when the computer specialist, Elfreda Kaminski, entered on duty December 13, 1981. This new section was charged with the responsibility of meeting the cross-section of park computer support needs which would arise in the future. Specifically, her duties included:

- a. Assist all divisions in identifying their automation needs.
- b. Train and assist personnel in each division in using the computer as a tool to accomplish their mission. (Get the maximum number of personnel in each division using the computer as soon as possible).
- c. Analyze all automation requests and help in establishing priorities of those to be developed.
- d. Develop a cost tracking system that meets the park needs and interfaces with the WASO-PFM and DIPS System.
- e. Analyze the equipment received, ordered, and pending in the Master Plan regarding its ability to meet park needs.
- f. Implement the Word Processing system and make training available.
- g. Take necessary steps to adequately staff the section.
- h. Configure the present system and future systems as necessary, setting up procedures and methods to ensure:
  1. security of data and the facility



## 2. backup of data and software

- i. Act as consultant to local users of the large mainframe systems (i.e., Boeing Computer Service - WASO)
- j. Act as liaison between ADP personnel from Region, WASO, universities, software and equipment companies, and other agencies.

## 2. Equipment:

- a. Phase One of the Master Plan called for the following equipment to be purchased, delivered, and installed by the end of November 1981:

- 1. 1 1811 Datapoint processor (128 K memory)
- 2. 1 9320 Cynthia cartridge (10 megabyte disk, 4 drives)
- 3. 1 1414 Floppy disk drive (2 megabytes)
- 4. 1 300 line per minute line printer
- 5. 1 212B 24 baud modem

This equipment was configured by the computer specialist and the DOS (Disk Operating System) was ready for use by January 15, 1982, giving Yellowstone the ability to:

- 1. run local programs and generate reports on regular computer forms
- 2. exchange or store programs/files on diskette
- 3. transmit and receive files from other areas
- 4. backup the system

- b. Phase Two of the program called for the delivery and installation of 8200 terminals to the Ranger Division, Research Division and Budget Office by February 10. They were subsequently configured and the capability of working from remote stations using Datpoint's datashare software was available by February 25, 1982.

- c. Phase Three of the program included the delivery and installation of:

- 1. 1 3800 processor (64 K memory) to be used as an applications processor or as a communications processor for running the printer or communicating by telephone with the Regional Office, other parks, or a large computer mainframe. (Limited to one option at a time).
- 2. 1 8600 processor (128 K memory) to be used as a datashare processor, activating remote terminals in





the system or as an applications processor. (Limited to one option at a time).

3. 1 8200 terminal for administration, temporarily located in the ADP Office.
4. 1 8-port active hub to link all processors
5. 1 45 cps letter quality printer

In addition, the 1800 was converted from its previous role as a datashare station to a file manager processor. All new equipment was installed by March 20 and the ARC system linking and activating remote terminals throughout the building was configured and functional by April 30.

A re-evaluation of park computer needs and equipment capabilities, done in May, 1982, revealed that our system at that time:

1. did not provide adequate storage for our projected needs
2. made inefficient use of our processors and terminals
3. limited our word processing capabilities

The recommendation was made to revise the Master Plan, changing from the DOS (Disk Operating System) to Datapoint's more extensive RMS (Resource Management System). A report and equipment order was prepared and submitted to the Rocky Mountain Regional Office, with final approval given in June, 1982.

- d. According to the revised plan, equipment to be obtained for Phase Four would now consist of:
  1. 1 8630 processor (256 K memory)
  2. 2 9301 Winchester Disk Drives having 20 megabytes of storage each
  3. 2 8220 workstations (Superintendent's Office and ADP Support)

In addition, upgrade kits to convert existing 8200 terminals to 8220 terminals were purchased and memories for the 3800 terminal and both 8600 processors were doubled. These changes gave us a total storage capacity of 40 megabytes, with a total processor memory of 896 K.

The Phase Four hardware was installed for testing and file transfer from DOS to RMS began on November 30, 1982.



### 3. Software:

- a. Datapoint System Software: DOS version software packages were received as follows:

1. ARC (Attached Resource Computer System) March 1982
2. IEOS (Word Processing) - May 1982

RMS version software packages received were:

1. RMS Version 1.9 System Software (not including Basic compiler or Fortran compiler) November 1982
2. IEOS (Word Processing) December 1982
3. Multiplan (Data Formatting Report System) December 1982

- b. Region-Developed Software: The DOS version of PRIPS (Park Restoration Improvement Program Cost Tracking System) was forwarded to Yellowstone in November 1982

The DOS Datascan package was purchased in November, 1982.

- c. Yellowstone-Developed Software: In February 1982, a total of 43 major automation requests were evaluated and ranked in priority order. The top six requests were:

1. Cost Status
2. Law Enforcement (Case incidents)
3. Law Enforcement (Backcountry)
4. Fuel and Quarters
5. Visitors' Center and Visitor Statistic
6. Vehicle Inventory (Tracking)

The development of these programs was to be addressed in priority order in conjunction with other day-to-day duties.

In March, a Seasonal Labor rating system was developed, generating a list of applicants which were ranked by criteria as requested by the Personnel Office. The program was subsequently forwarded to the Regional Office in Denver for use by the Personnel Office on a Regionwide basis.

During April, the Computer Specialist responded to requests to:

1. assist the Ranger Division in setting up a water quality data entry program
2. assist the Research Division in devising a program for entering ground cover data



3. assist the Maintenance Division in automating their contract specifications

By May, Phase One of the Cost Status program was ready for testing. Individual items were entered either as \$1,000 in expenditures accumulated or weekly. Items were totalled monthly by object class breakdown within each account number (PMF level). The resulting report gave comparisons with programmed amounts and variances with PMF reports. Twelve people were trained to enter data for their respective divisions. Summary reports were prepared for the Assistant Superintendent to keep him informed on a regular basis.

A program for analyzing FTE (Full Time Equivalency) was acquired from Grand Teton and modified for use in Yellowstone by the Computer Specialist.

During the summer programs were developed for entering law enforcement data and bear case incident data. These were written by Jon Danforth (Data Transcriber) under the supervision and training of the Computer Specialist.

4. Personnel: In addition to the Computer Specialist, hired in December, 1981, a temporary data transcriber (GS-3) was hired to assist from May 12 through September 1, 1982. In September 1982, Sue Fullerton was hired as a permanent, part-time computer operator (GS-7) to:
  - a. supervise word processing operations and train beginning level users
  - b. transmit and receive reports from Region and other areas
  - c. backup and protect system files and programs each week
  - d. maintain all necessary logs and records
  - e. work with users to help resolve problems, and print and distribute requested reports
  - f. assist in entering data and testing programs when time permits
5. Training Attended: During March, training was held in Yellowstone by Regional personnel for "Introduction to Data Processing by Managers". This session was attended by the Yellowstone computer specialist and 39 other participants from eight parks.

In May, the Computer Specialist attended Datapoint Word Processing training in San Antonio and returned to implement a word processing program with temporarily limited access. As both individual training time and computer space were limited, it was decided that only those word processing requests requiring in excess of three pages, or documents



that would have multiple mailings with minor changes would be filled for the time being.

In December 1982 an ADP Seminar was conducted in Yellowstone, with presentations given by Regional ADP personnel. Five regions and 21 Rocky Mountain parks were represented. The session was coordinated and attended by Yellowstone's Data Processing Manager, Elfreda Kaminski. In addition, eight other Yellowstone personnel received training - either in word processing or in a variety of subject areas. The following concepts were presented:

- a. Disk Operating System and system software
- b. Resource Management System and system software
- c. PRIPS
- d. Datascan
- e. Multiplan
- f. Various hardware available
- g. Data Processing in the Park Service

Eight subject areas were assigned to various parks for research on current programs available and NPS needs. A telephone conference is scheduled for early February 1983 to share findings. The assignments were:

- a. Real Property Inventory (Alaska)
- b. Supply Inventory (RMRO)
- c. Concessions (MWRO)
- d. Natural Culture (NCR)
- e. Vehicles (GLCA)
- f. Reimbursibles (GRTE)
- g. Law Enforcement (YELL)

6. Training Given: In May 1982, Elfreda conducted two 8-hour classes on Introduction to Datapoint. Thirty-two Yellowstone Park employees participated. The concepts covered:

- a. System structure
- b. Policies
- c. Sign on procedure
- d. File management
- e. Security
- f. Datashare concepts
- g. ARC concepts
- h. Available languages
- i. DSGEN

A total of 12 individuals have been trained in 4 hour sessions in one or more of the following areas:

- a. Basic Programming





- b. Databus Programming
  - c. Fortran Programming
  - d. DSGEN
  - e. Datashare
  - f. Cost
7. Users: Operating under the mandate to get as many users active on the system as possible, the Computer Specialist trained numerous individuals in word processing as project requests were made. By the end of 1982, eight people were actively using word processing and the following documents and reports had been generated:
- a. Ranger Division:  
Resources Management Report (273 pages) was typed using word processing and involving five people from various divisions.  
Three separate letters were autotyped to a list of addressees by Ranger Office personnel.
  - b. Administration:  
Letter regarding Property Cost Increase was autotyped to all employees.  
Two separate letters autotyped to a list of addressees by Personnel Office.  
Documents for tracking monthly progress of contracts and logging account numbers were developed for use by the Fiscal Office.
  - c. Naturalist Division:  
Three letters for YLMA were autotyped to a list of addressees.
  - d. Maintenance Division:  
Several word processing documents averaging about 3 pages each were generated.  
All contract specifications since April 1982 have been output from the Maintenance Office, first using Edit, and then Word Processing when it became available.  
Personnel in the Maintenance Division were trained in both techniques by the Data Processing Manager.
  - f. Research Division:  
Several short documents of from 1 to 2 pages were generated in addition to two scientific manuscripts.
8. Services: Various reports involving fiscal and payroll matters are regularly sent to the parks from the Regional Office. During 1982 a number of these reports were, instead, transmitted to Yellowstone to be printed on site. These reports now include:



- a. Payslips - biweekly
- b. Payroll Distribution - biweekly
- c. Annual Operating Program - monthly
- d. Project Management Report - monthly
- e. Monthly Expenditures - monthly
- f. Undelivered Orders - monthly
- g. Work Orders/Contracts - monthly
- h. PRIPS - weekly

All reports are printed in ADP and distributed to the appropriate offices.

In addition to routine exchanges of files between parks and the Regional Office, our transmission capability was used in December to transmit a research manuscript to the mainframe at the University of Montana at Missoula.



# VIII. OTHER

## A. Auxilliary Programs:

1. Volunteers-in-Parks Program (VIP): The VIP Program was very effective in 1982, with 102 volunteers providing a total of 13,954 hours of service at an average cost of \$7.45 per volunteer. The Campground Host program, in which retired volunteer couples worked in the campgrounds providing information and services to visitors, was extremely successful in 1982, and will be implemented again in 1983. The Regional VIP Coordinator spent a day in the park in the late fall, providing a very informational session for representatives from each division, resulting in a better line of communication and implementation of the program.
2. A Christian Ministry in Yellowstone National Park/The Gardiner-Mammoth Winter Ministry: In 1982 the Ministry, under the direction of Reverend Ron Creque, Resident Minister, was staffed by 51 college and seminary students representing 14 different denominations. Besides leading 34 services of worship each Sunday, the staff provided Bible studies and opportunities for Christian fellowship throughout the park. They also conducted three memorial services for concessioner employees who met tragedy while working in Yellowstone. Over 15,000 park visitors attended services of worship during the summer months.

The Gardiner-Mammoth Winter Ministry continues to provide spiritual care and nurture for the year-round personnel and residents of the communities.

## B. Status of Planning:

1. Old Faithful Development Development Concept Plan: The draft environmental assessment was prepared by the Denver Service Center and reviewed by the park, Region and Washington Offices in June. The document was modified to reflect their comments. During the month of September, controversy arose surrounding the removal of the cabins in the Old Faithful area. It was decided that the environmental assessment should be changed to fully assess the removal of the cabins. The final Old Faithful DCP was released for public review in January 1983.
2. Grant Village Development Concept Plan: The Preferred Alternative was approved on February 8, 1982. The approved location and size of the Hamilton Store facility came under scrutiny in July when Hamilton Stores began consideration of the construction of their new store facility at Grant Village. It was their concern the the location and size of the store was inadequate to serve the public need. As a



result of Hamilton Stores concerns an Amendment to the Development Concept Plan was prepared to assess the size and location of the store facility. Four alternatives were considered for the store facility. After public review, a Record of Decision and Finding of No Significant Impact was signed on November 17, 1982, which changed the location of the store to north of the Marina access road and east of the main access road across from the gas station. The size of the store facility was increased to 8,000 square feet of retail space and 25,000 square feet of space divided between two floors.

3. PRIP Program: Environmental Assessments were prepared on three projects in the 1982 PRIP Program: 1) Construct four garbage containers and truck cleaning stations; 2) Replace comfort stations and utilities, Norris; 3) Increase overflow storage at 11 lift stations. A Finding of No Significant Impact was prepared and signed for each of these projects prior to the initiation of construction.

#### C. Status of Design:

1. Package 620: The Denver Service Center completed designs for all of the 1982 package 620 projects. The DSC has initiated the design of the Package 620 projects for the 1983 fiscal year. These projects include: Rehabilitate Canyon Lodge Kitchen; Rehabilitation and emergency repairs Lake Lodge Kitchen; Rehabilitation and emergency repairs Roosevelt Lodge; Rehabilitate women's dorm Lake; Construct dorm Lake; Construct dorm Old Faithful.
2. Grant Village: The design of Grant Village facilities was initiated by both primary concessioners and the National Park Service. TWA Services completed designs for four lodging units and one employee dormitory. TWA Services has submitted designs on the gift shop, registration office and trailer court which are presently being reviewed in the Regional Office. Hamilton Stores has prepared preliminary designs on their new store facility and dormitory. These designs were reviewed by the Region and the DSC and were approved subject to design modifications. The National Park Service initiated design on the site improvements, utility connections and sewage treatment facility improvements (Package 637). The design of these facilities was hampered by the addition of Hamilton Stores facilities which were not considered until Hamilton Stores requested a change in the size and location of their facilities. Package 637 is scheduled for completion on February 15, 1983.





#### D. Safety Program:

The Safety Program is considered a very important part of the operations in Yellowstone National Park and continues to receive high priority. The Assistant Regional Safety Manager remained in residence and from this location assists in the safety programs in Yellowstone National Park, Grand Teton National Park, Grant-Kohrs Ranch National Historic Site and Big Hole National Battlefield. Most of his time is spent in Yellowstone working with the park employees as well as concession operations and contractor work. Preopening and followup inspections are accomplished at all concession facilities. He is accompanied by park fire inspectors during these inspections.

A parkwide Safety Committee was appointed and meetings were held monthly. During June through September, these meetings were held at various locations in the park. The Safety Committee consisted of representatives from all divisions, YACC, and representatives of the concessioners operating in the park. Workcrew "tailgate" safety meetings are required weekly with a report of the meeting submitted to the Safety Manager. The Safety Manager provides films and other training material and is able to attend many of these meetings.

Prior to the start of the snowmobile season, training sessions on the safety and maintenance of the machines were conducted. These training sessions were held at the Vehicle Repair Shops and were conducted by trained shop personnel and the Safety Manager. It is mandatory for any employee who operates a snowmachine to attend these classes. Each division chief is responsible for on-the-machine training of the oversnow operation of the machine.

The National Safety Council's Defensive Driving course was conducted numerous times during the year with 122 employees receiving certificates. All employees must complete the course within 30 days after obtaining their operator's permit. All employees are required to attend the course at least once each three years. All employees must pass a road test before an SF-46 is issued to operate a Government vehicle. A training program of winter driving safety was conducted with 125 park and concession employees participating.

Numerous first aid, CPR and EMT courses were offered during the year.

Blasting classes were conducted in three parks by a maintenance supervisor. Each class consisted of 25 participants.

The Safety Manager conducted a Driver's Examiners' class at Canyonlands National Park and Bryce Canyon National Park and certified four Defensive Driving instructors at Glacier National Park.



A training session on the Life Safety Code-NFPA 101, was presented by Chief of Safety Spivey and Safety Engineer Rueff. Approximately 35 supervisors were in attendance for this three and one-half day class.

A comparison of accidents for the past three years is as follows:

	<u>1980</u>	<u>1981</u>	<u>1982</u>
Fatalities	5	7	7
Employee Accidents	30	28	49
Employee Vehicle Accidents	18	17	24

After each employee motor vehicle accident, a review team chaired by the division chief of the employee involved, met to discuss the accident, determine whether or not the accident could have been prevented, and decide upon the appropriate disciplinary action to be taken when warranted. Each fatality is reviewed by a team appointed by the Superintendent.

Fatalities included a 20-year-old concession employee who was killed when the vehicle she was driving, left the road in the Gardner Canyon and went into the river.

A 22-year-old student drowned while swimming at a thermal area known as Boiling River.

A 27-year-old visitor drowned while engaged in the illegal activity of attempting to raft elk antlers down the Yellowstone River.

A 17-year-old visitor was killed when the vehicle in which he was a passenger left the road and struck several trees.

A 16-year-old visitor drowned while swimming at a thermal area known as Boiling River.

A 19-year-old visitor was killed when the vehicle he was driving and a motorhome collided near Pumice Point in the Lake-Grant Village area.

A 19-year-old concession employee drowned while attempting to wade across the flood swollen Hellroaring Creek to assist a companion.

During 1982, ten visitor thermal burn accidents were reported. They included nine visitors in separate incidents, when they left the boardwalks or established trails and broke through the



crust or stepped into hot water, and one visitor who received minor burns, first degree, in a similar accident.

During 1981, 13 visitor thermal burns were reported, including 1 visitor who died as a result of his burns.



# VISITATION STATISTICS

The number of visitors during the period between the establishment of the park (1872), and the beginning of this compilation (1895), was estimated to be not less than 1,000 nor more than 5,000 each year.

<u>YEAR</u>	<u>VISITORS</u>	<u>YEAR</u>	<u>VISITORS</u>	<u>YEAR</u>	<u>VISITORS</u>
1895	5,438	1930	227,901	1960	1,443,238
96	4,650	31	221,248	61	1,524,088
97	10,680	32	157,624	62	1,925,227
98	6,534	33	161,938	63	1,872,417
99	9,579	34	260,775	64	1,929,316
		35	317,998	65	2,602,475
1900	8,928	36	432,570	66	2,130,313
01	10,769	37	499,242	67	2,210,023
02	13,433	38	466,185	68	2,229,657
03	13,165	39	488,936	69	2,193,894
04	13,727				
05	26,188	1940	526,437	1970	2,297,290
06	17,182	41	581,761	71	2,210,487
07	16,414	42	191,830	72	2,246,827
08	18,748	43	64,144	73	2,061,537
09	35,545	44	85,347	74	1,937,768
		45	178,296	75	2,246,132
1910	19,575	46	814,907	76	2,525,174
11	23,054	47	932,503	77	2,487,084
12	22,970	48	1,013,531	78	2,623,141
13	24,929	49	1,133,516	79	1,895,169
14	20,250				
15	51,895	1950	1,109,926	1980	2,018,852
16	35,849	51	1,166,346	81	2,549,307
17	35,400	52	1,350,295*	82	2,404,862
18	21,275	53	1,326,858		
19	62,261	54	1,328,893		
		55	1,368,515		
1920	79,777	56	1,457,782		
21	81,651	57	1,595,875		
22	98,225	58	1,442,428		
23	138,352	59	1,408,667		
24	144,158				
25	154,282				
26	187,807				
27	200,825				
28	230,984				
29	260,697				

\*Beginning in 1952, the figures represent travel during the calendar year instead of the period October 1 to September 30 as previously used.

















